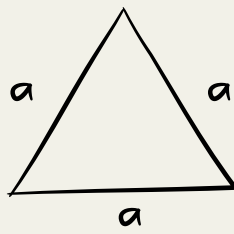


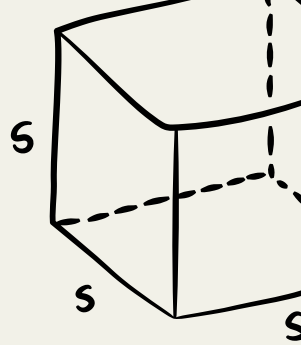
\leq

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$



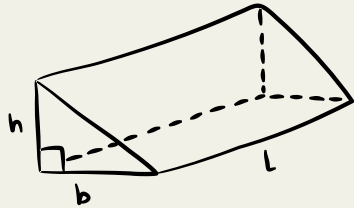
$$A = \frac{\sqrt{3}}{4} a^2$$

$=$

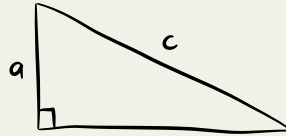


$$V = s^3$$

$$\frac{x}{a} + \frac{y}{b} = 1$$

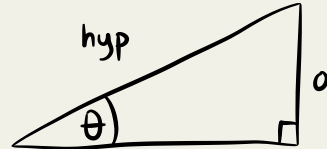


$$V = \frac{1}{2} bhl$$



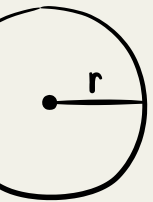
$$a^2 + b^2 = c^2$$

$$S = \frac{d}{t}$$

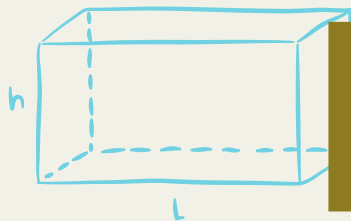


$$\sin(\theta) = \frac{\text{opp}}{\text{hyp}}$$

$$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$



$$A = \pi r^2$$

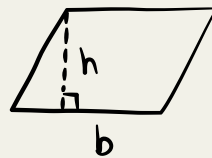


$$V = Lwh$$

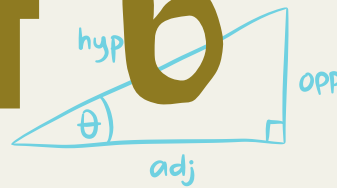


$$A = bh$$

$$y = mx + b$$



$$A = bh$$

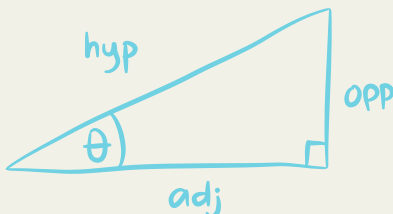


$$\cos(\theta) = \frac{\text{adj}}{\text{hyp}}$$

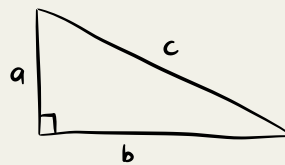
$$ax^2 + bx + c = 0$$

$$S = \frac{d}{t}$$

$$a + (b + c) = (a + b) + c$$

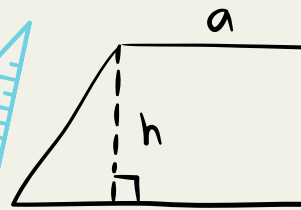
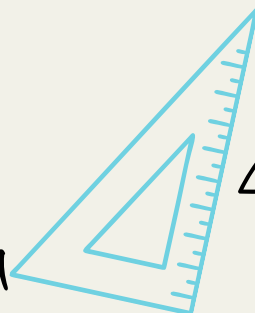


$$\tan(\theta) = \frac{\text{opp}}{\text{adj}}$$



$$a^2 + b^2 = c^2$$

$$a + 0 = a$$



$$A = \frac{a+b}{2} h$$

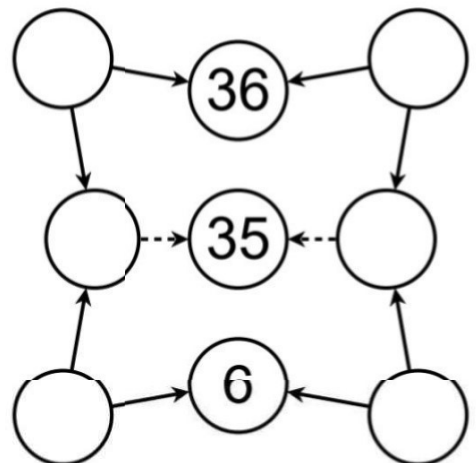
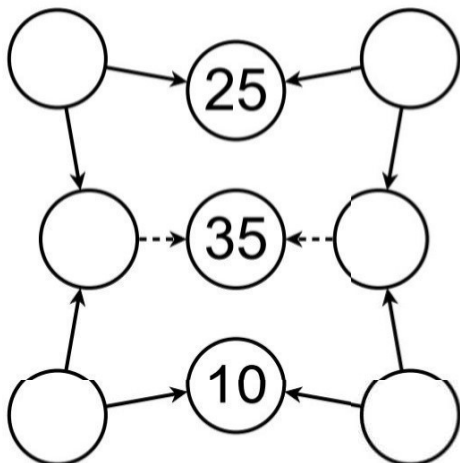
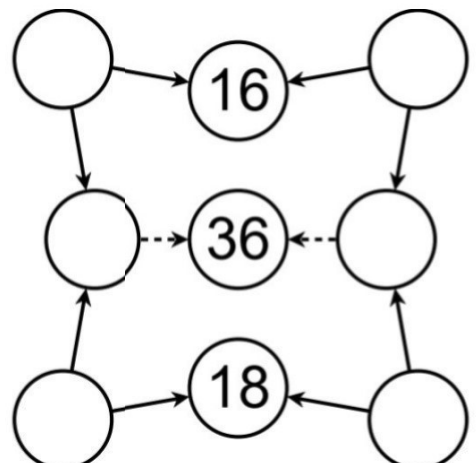
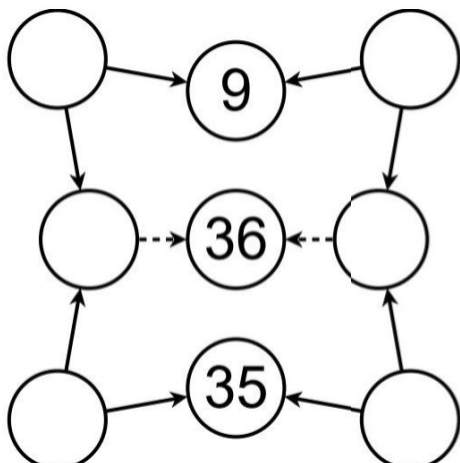
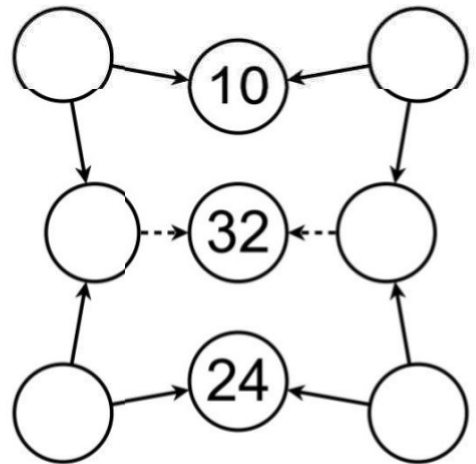
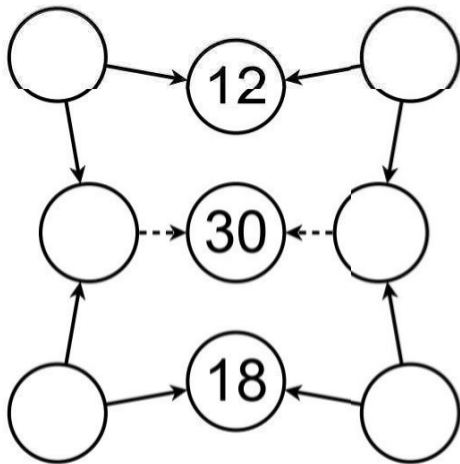
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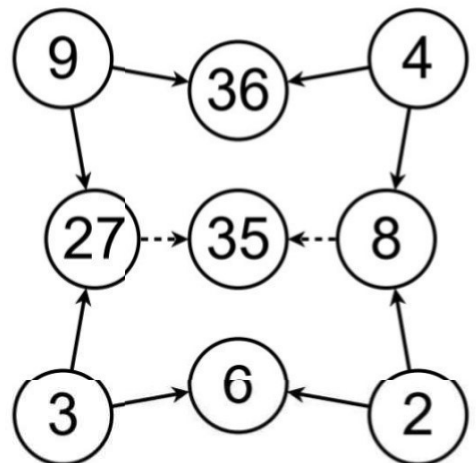
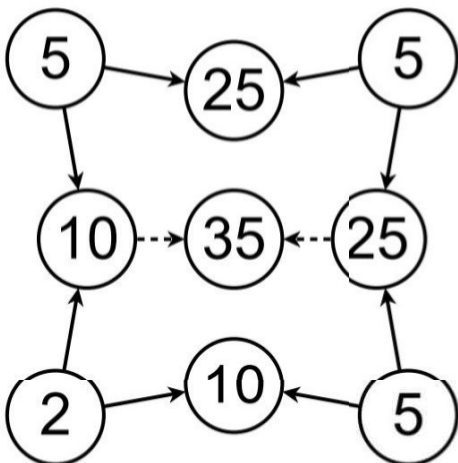
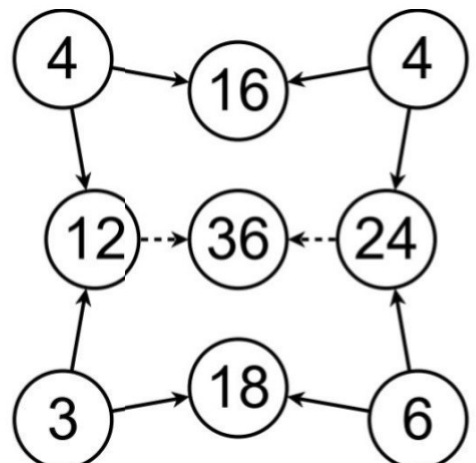
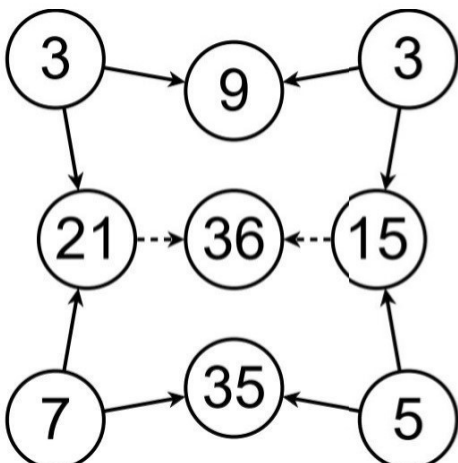
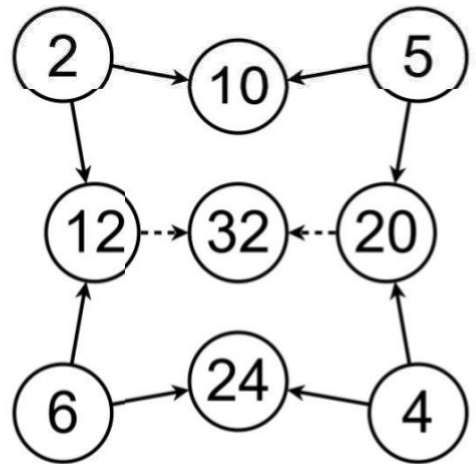
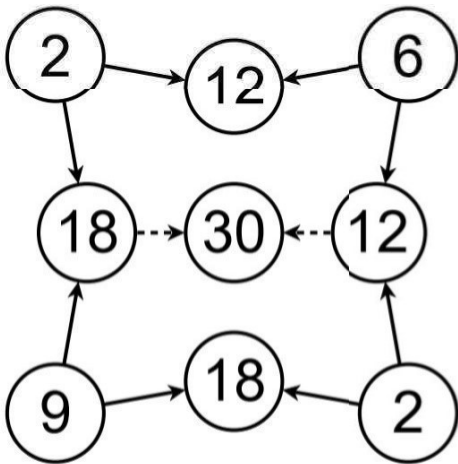
FACTORING

Find the missing numbers. Solid lines mean multiply.
Dotted lines mean add.

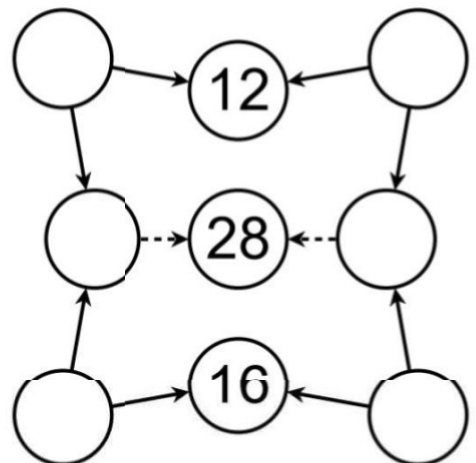
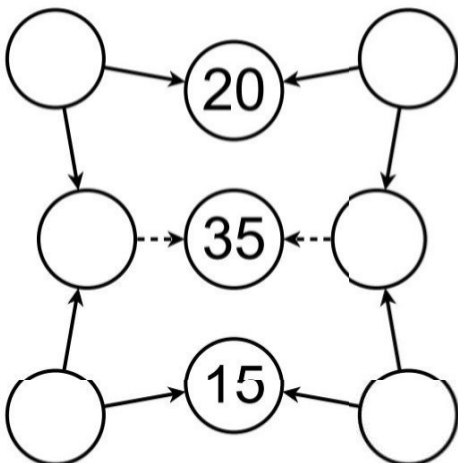
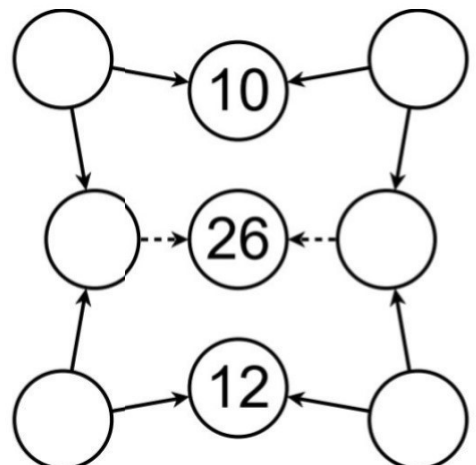
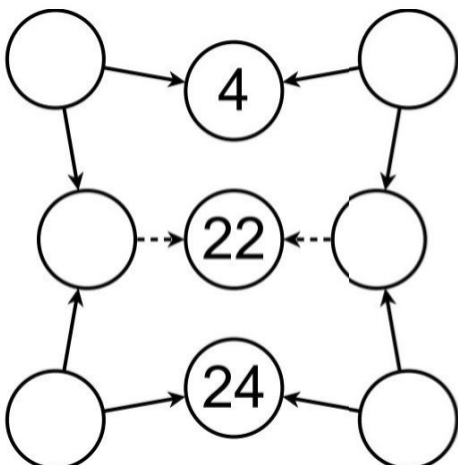
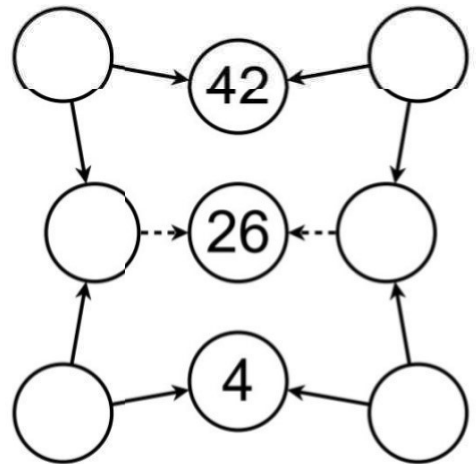
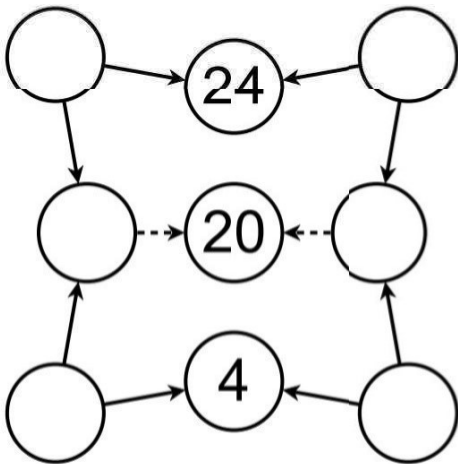


Answer Key

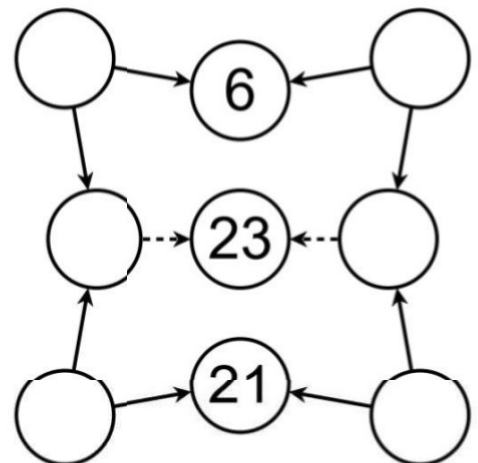
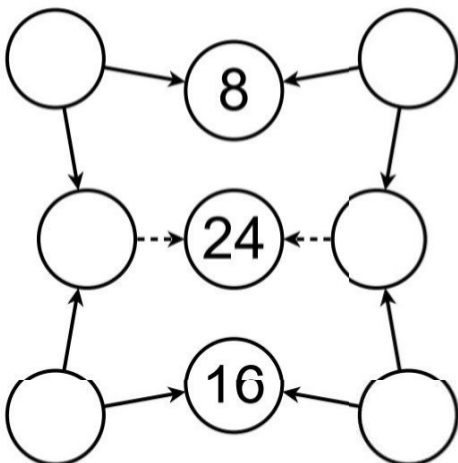
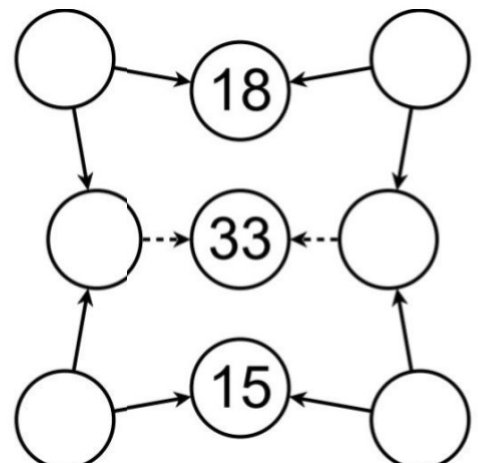
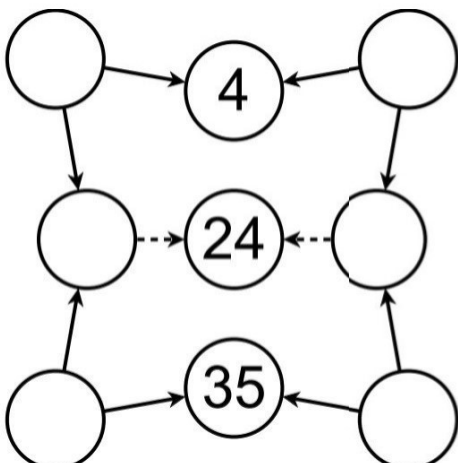
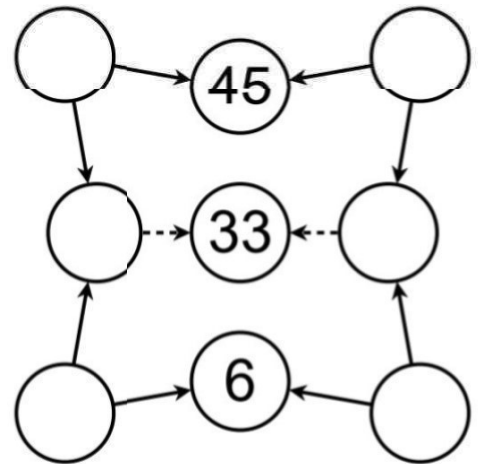
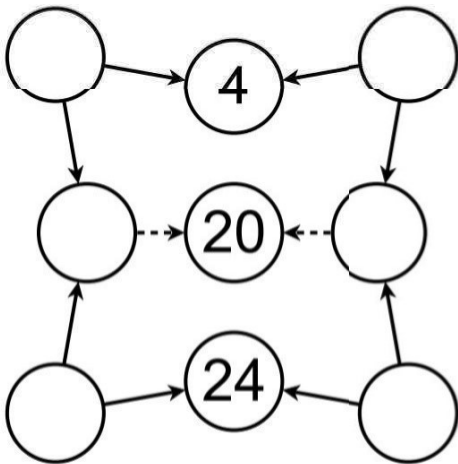
Find the missing numbers. Solid lines mean multiply. Dotted lines mean add.



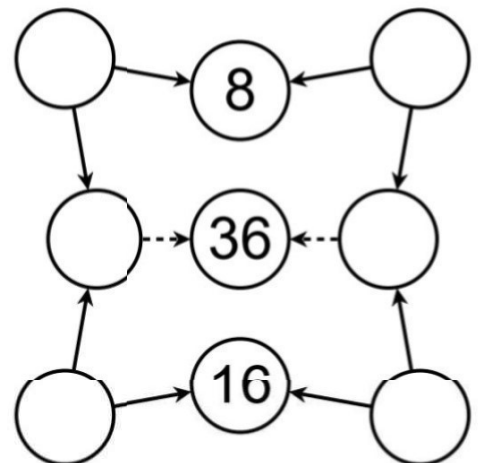
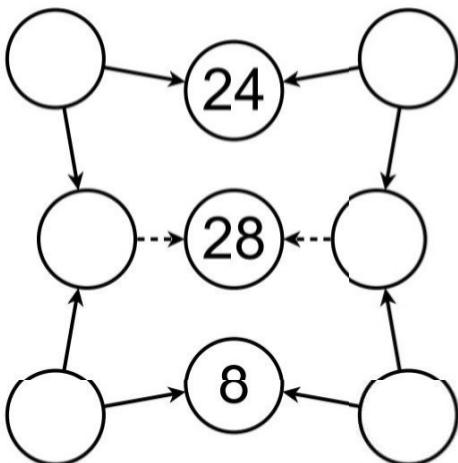
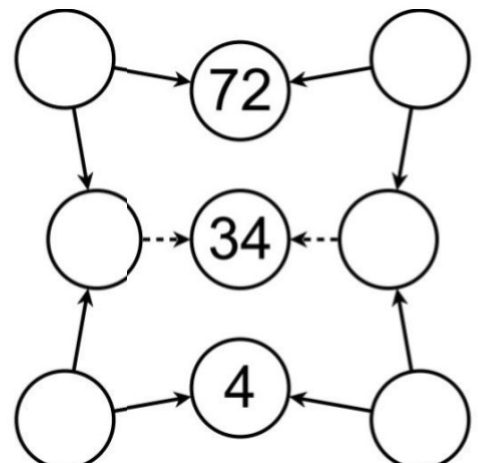
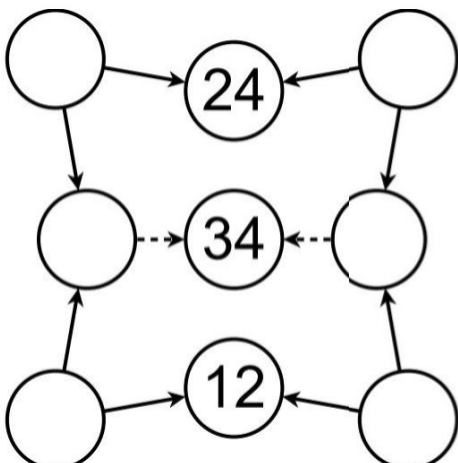
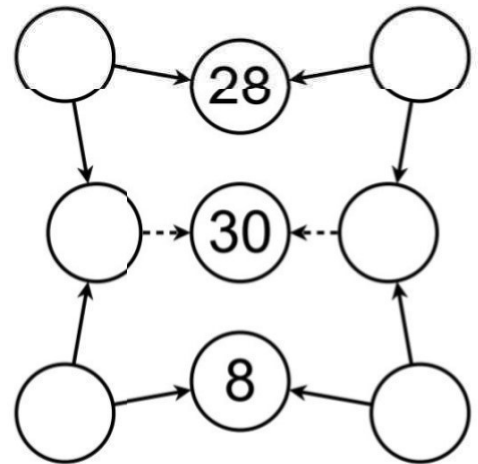
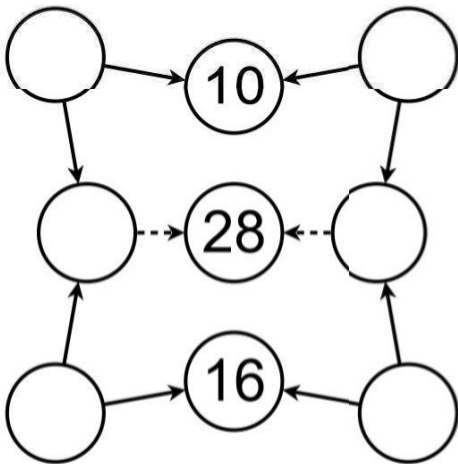
Find the missing numbers. Solid lines mean multiply.
Dotted lines mean add.



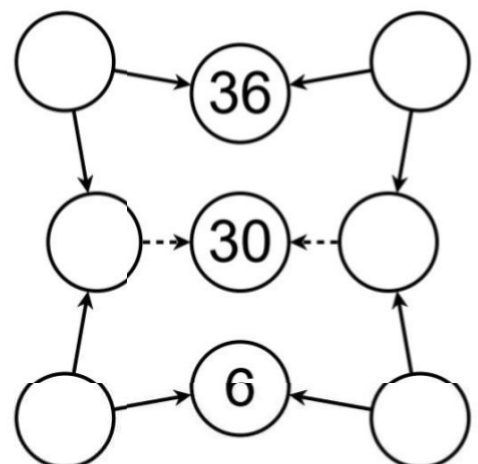
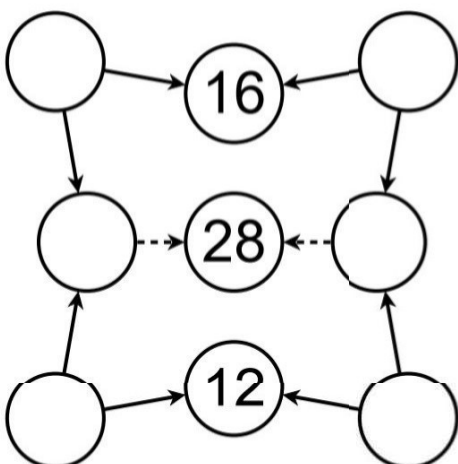
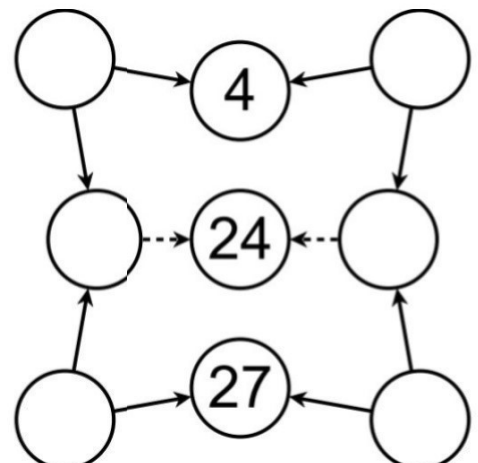
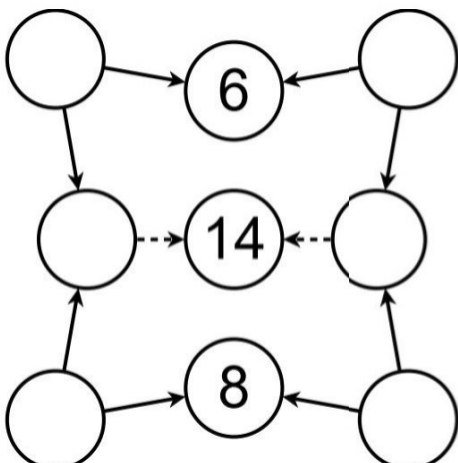
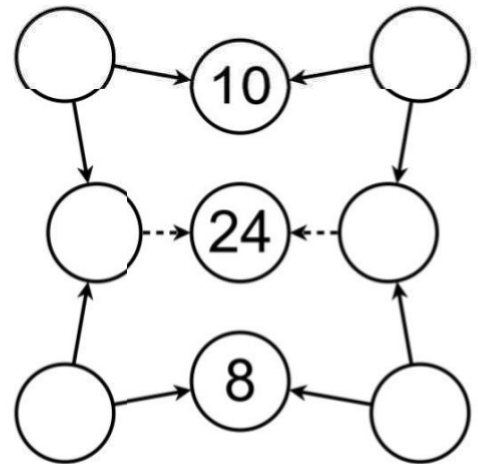
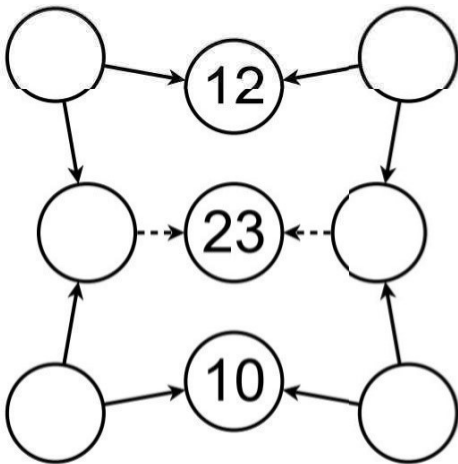
Find the missing numbers. Solid lines mean multiply.
Dotted lines mean add.



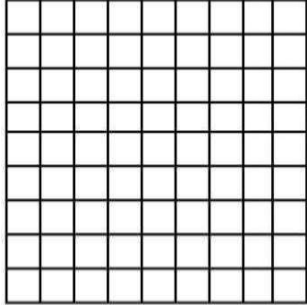
Find the missing numbers. Solid lines mean multiply.
Dotted lines mean add.



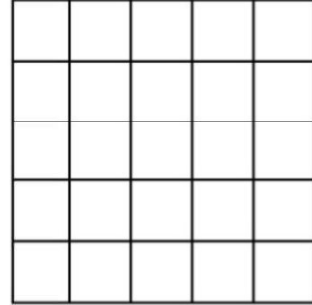
Find the missing numbers. Solid lines mean multiply.
Dotted lines mean add.



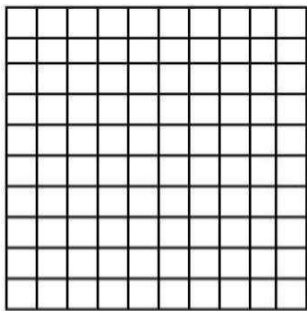
SQUARE ROOTS



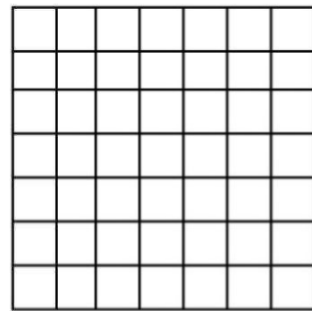
$$9^2 = 9 \times 9 = \underline{\hspace{2cm}}$$



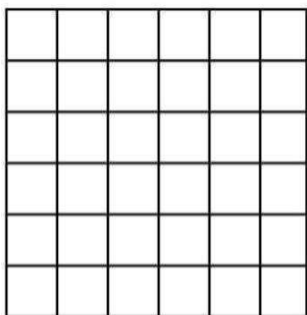
$$5^2 = 5 \times 5 = \underline{\hspace{2cm}}$$



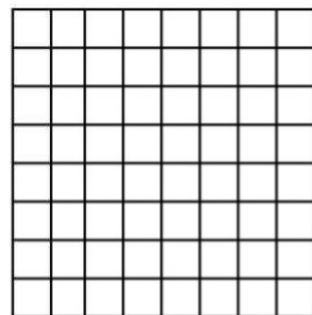
$$10^2 = 10 \times 10 = \underline{\hspace{2cm}}$$



$$7^2 = 7 \times 7 = \underline{\hspace{2cm}}$$

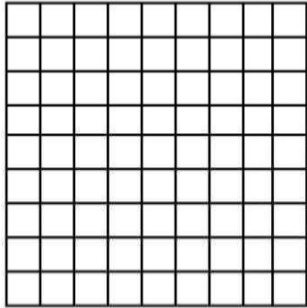


$$6^2 = 6 \times 6 = \underline{\hspace{2cm}}$$

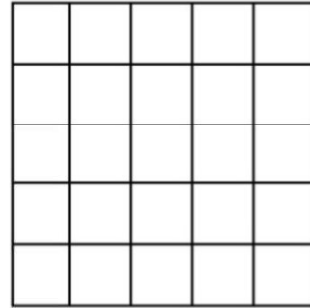


$$8^2 = 8 \times 8 = \underline{\hspace{2cm}}$$

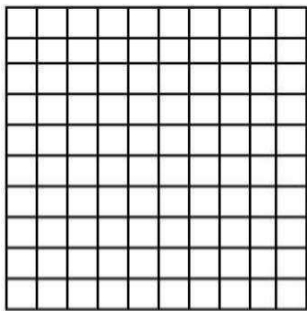
Answer Key



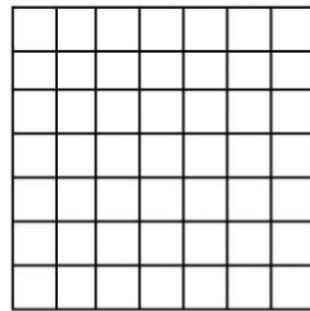
$$9^2 = 9 \times 9 = \underline{81}$$



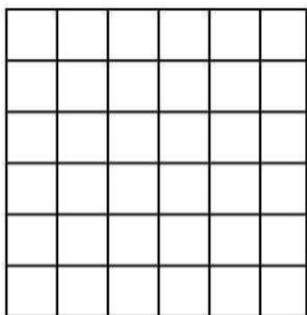
$$5^2 = 5 \times 5 = \underline{25}$$



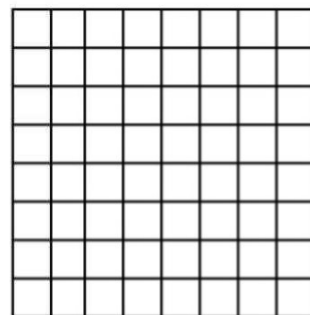
$$10^2 = 10 \times 10 = \underline{100}$$



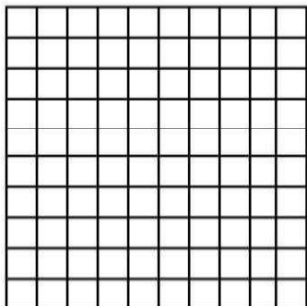
$$7^2 = 7 \times 7 = \underline{49}$$



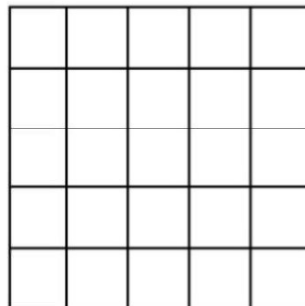
$$6^2 = 6 \times 6 = \underline{36}$$



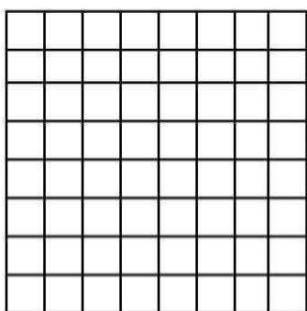
$$8^2 = 8 \times 8 = \underline{64}$$



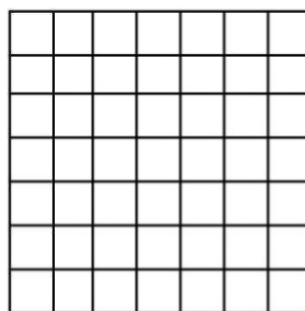
$$10^2 = 10 \times 10 = \underline{\hspace{2cm}}$$



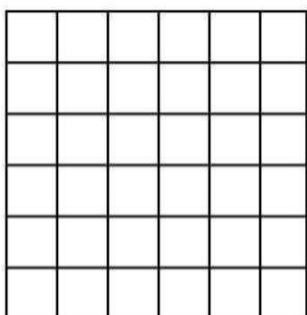
$$5^2 = 5 \times 5 = \underline{\hspace{2cm}}$$



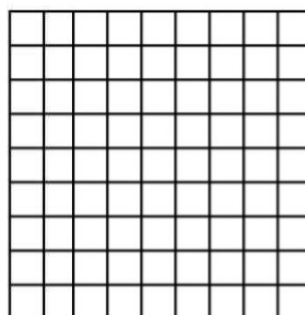
$$8^2 = 8 \times 8 = \underline{\hspace{2cm}}$$



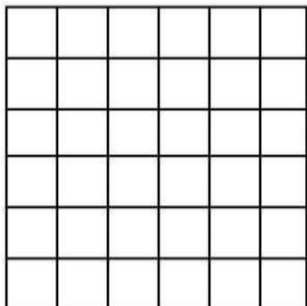
$$7^2 = 7 \times 7 = \underline{\hspace{2cm}}$$



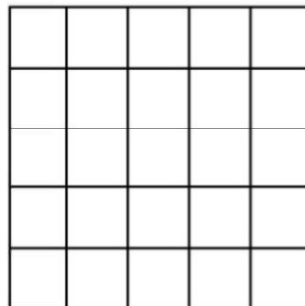
$$6^2 = 6 \times 6 = \underline{\hspace{2cm}}$$



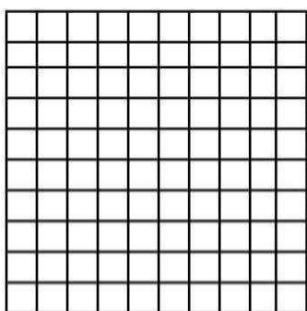
$$9^2 = 9 \times 9 = \underline{\hspace{2cm}}$$



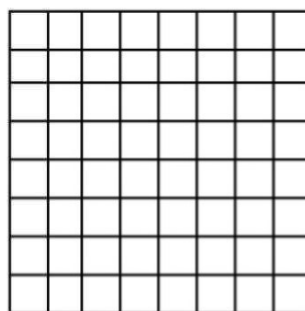
$$6^2 = 6 \times 6 = \underline{\hspace{2cm}}$$



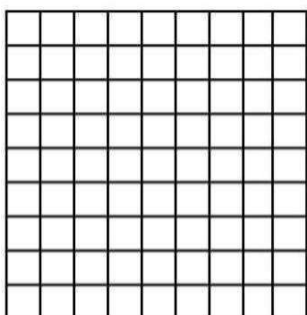
$$5^2 = 5 \times 5 = \underline{\hspace{2cm}}$$



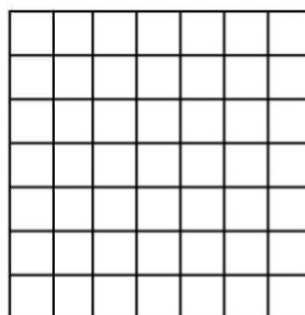
$$10^2 = 10 \times 10 = \underline{\hspace{2cm}}$$



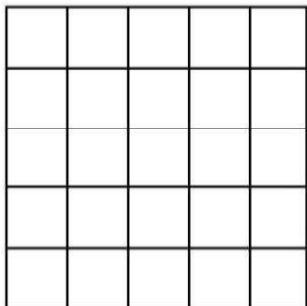
$$8^2 = 8 \times 8 = \underline{\hspace{2cm}}$$



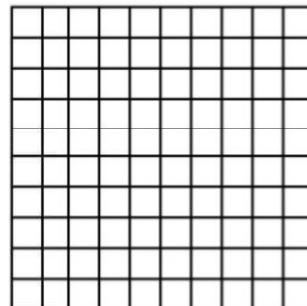
$$9^2 = 9 \times 9 = \underline{\hspace{2cm}}$$



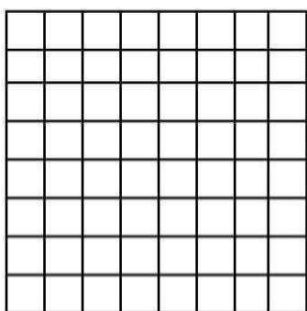
$$7^2 = 7 \times 7 = \underline{\hspace{2cm}}$$



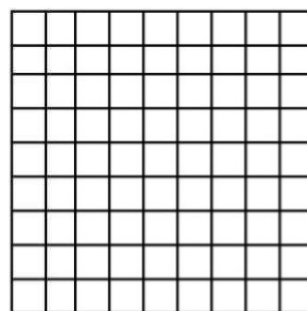
$$5^2 = 5 \times 5 = \underline{\hspace{2cm}}$$



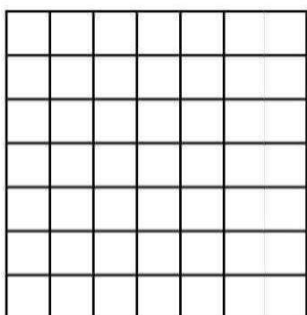
$$10^2 = 10 \times 10 = \underline{\hspace{2cm}}$$



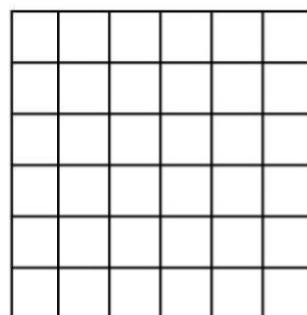
$$8^2 = 8 \times 8 = \underline{\hspace{2cm}}$$



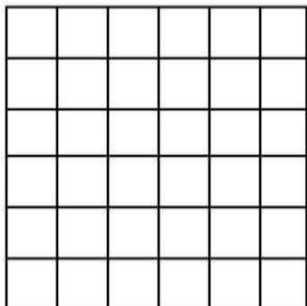
$$9^2 = 9 \times 9 = \underline{\hspace{2cm}}$$



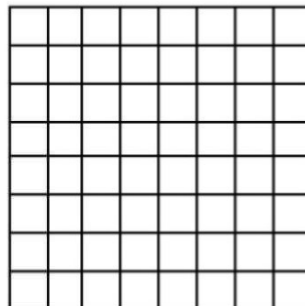
$$7^2 = 7 \times 7 = \underline{\hspace{2cm}}$$



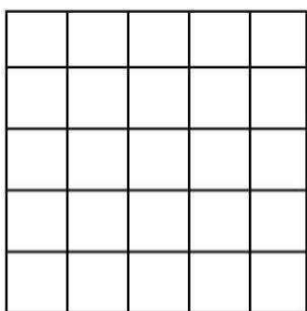
$$6^2 = 6 \times 6 = \underline{\hspace{2cm}}$$



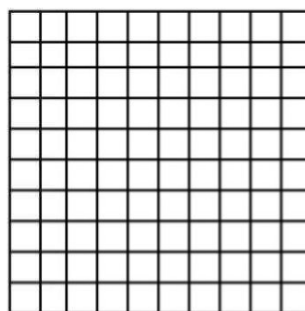
$$6^2 = 6 \times 6 = \underline{\hspace{2cm}}$$



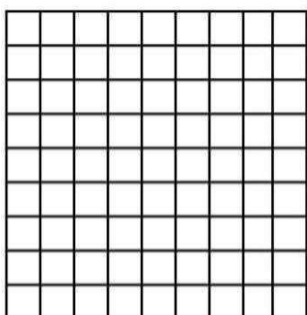
$$8^2 = 8 \times 8 = \underline{\hspace{2cm}}$$



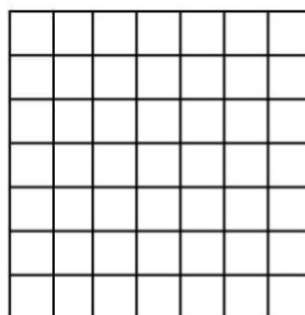
$$5^2 = 5 \times 5 = \underline{\hspace{2cm}}$$



$$10^2 = 10 \times 10 = \underline{\hspace{2cm}}$$



$$9^2 = 9 \times 9 = \underline{\hspace{2cm}}$$



$$7^2 = 7 \times 7 = \underline{\hspace{2cm}}$$

$10^2 = \underline{\hspace{2cm}}$

$4^2 = \underline{\hspace{2cm}}$

$3^2 = \underline{\hspace{2cm}}$

$2^6 = \underline{\hspace{2cm}}$

$12^2 = \underline{\hspace{2cm}}$

$8^2 = \underline{\hspace{2cm}}$

$9^2 = \underline{\hspace{2cm}}$

$2^3 = \underline{\hspace{2cm}}$

$13^2 = \underline{\hspace{2cm}}$

$10^3 = \underline{\hspace{2cm}}$

$11^2 = \underline{\hspace{2cm}}$

$3^3 = \underline{\hspace{2cm}}$

$5^3 = \underline{\hspace{2cm}}$

$4^3 = \underline{\hspace{2cm}}$

$20^2 = \underline{\hspace{2cm}}$

$7^2 = \underline{\hspace{2cm}}$

$5^2 = \underline{\hspace{2cm}}$

$6^2 = \underline{\hspace{2cm}}$

$2^2 = \underline{\hspace{2cm}}$

$2^5 = \underline{\hspace{2cm}}$

Answer Key

$$10^2 = \underline{100}$$

$$4^2 = \underline{16}$$

$$3^2 = \underline{9}$$

$$2^6 = \underline{64}$$

$$12^2 = \underline{144}$$

$$8^2 = \underline{64}$$

$$9^2 = \underline{81}$$

$$2^3 = \underline{8}$$

$$13^2 = \underline{169}$$

$$10^3 = \underline{1000}$$

$$11^2 = \underline{121}$$

$$3^3 = \underline{27}$$

$$5^3 = \underline{125}$$

$$4^3 = \underline{64}$$

$$20^2 = \underline{400}$$

$$7^2 = \underline{49}$$

$$5^2 = \underline{25}$$

$$6^2 = \underline{36}$$

$$2^2 = \underline{4}$$

$$2^5 = \underline{32}$$

$$4^2 = \underline{\hspace{2cm}}$$

$$2^3 = \underline{\hspace{2cm}}$$

$$3^2 = \underline{\hspace{2cm}}$$

$$2^5 = \underline{\hspace{2cm}}$$

$$20^2 = \underline{\hspace{2cm}}$$

$$6^2 = \underline{\hspace{2cm}}$$

$$2^2 = \underline{\hspace{2cm}}$$

$$13^2 = \underline{\hspace{2cm}}$$

$$2^4 = \underline{\hspace{2cm}}$$

$$3^3 = \underline{\hspace{2cm}}$$

$$5^3 = \underline{\hspace{2cm}}$$

$$4^3 = \underline{\hspace{2cm}}$$

$$2^6 = \underline{\hspace{2cm}}$$

$$3^4 = \underline{\hspace{2cm}}$$

$$11^2 = \underline{\hspace{2cm}}$$

$$12^2 = \underline{\hspace{2cm}}$$

$$10^3 = \underline{\hspace{2cm}}$$

$$8^2 = \underline{\hspace{2cm}}$$

$$5^2 = \underline{\hspace{2cm}}$$

$$10^2 = \underline{\hspace{2cm}}$$

$$6^2 = \underline{\hspace{2cm}}$$

$$5^2 = \underline{\hspace{2cm}}$$

$$13^2 = \underline{\hspace{2cm}}$$

$$4^2 = \underline{\hspace{2cm}}$$

$$11^2 = \underline{\hspace{2cm}}$$

$$3^2 = \underline{\hspace{2cm}}$$

$$10^3 = \underline{\hspace{2cm}}$$

$$5^3 = \underline{\hspace{2cm}}$$

$$2^3 = \underline{\hspace{2cm}}$$

$$20^2 = \underline{\hspace{2cm}}$$

$$2^2 = \underline{\hspace{2cm}}$$

$$4^3 = \underline{\hspace{2cm}}$$

$$2^5 = \underline{\hspace{2cm}}$$

$$2^6 = \underline{\hspace{2cm}}$$

$$8^2 = \underline{\hspace{2cm}}$$

$$3^4 = \underline{\hspace{2cm}}$$

$$7^2 = \underline{\hspace{2cm}}$$

$$12^2 = \underline{\hspace{2cm}}$$

$$10^2 = \underline{\hspace{2cm}}$$

$$9^2 = \underline{\hspace{2cm}}$$

$$3^4 = \underline{\hspace{2cm}}$$

$$6^2 = \underline{\hspace{2cm}}$$

$$13^2 = \underline{\hspace{2cm}}$$

$$7^2 = \underline{\hspace{2cm}}$$

$$8^2 = \underline{\hspace{2cm}}$$

$$2^5 = \underline{\hspace{2cm}}$$

$$10^2 = \underline{\hspace{2cm}}$$

$$3^2 = \underline{\hspace{2cm}}$$

$$12^2 = \underline{\hspace{2cm}}$$

$$2^3 = \underline{\hspace{2cm}}$$

$$3^3 = \underline{\hspace{2cm}}$$

$$4^3 = \underline{\hspace{2cm}}$$

$$5^3 = \underline{\hspace{2cm}}$$

$$5^2 = \underline{\hspace{2cm}}$$

$$2^6 = \underline{\hspace{2cm}}$$

$$2^4 = \underline{\hspace{2cm}}$$

$$9^2 = \underline{\hspace{2cm}}$$

$$11^2 = \underline{\hspace{2cm}}$$

$$10^3 = \underline{\hspace{2cm}}$$

$$2^2 = \underline{\hspace{2cm}}$$

$$2^6 = \underline{\hspace{2cm}}$$

$$2^2 = \underline{\hspace{2cm}}$$

$$13^2 = \underline{\hspace{2cm}}$$

$$8^2 = \underline{\hspace{2cm}}$$

$$10^2 = \underline{\hspace{2cm}}$$

$$3^3 = \underline{\hspace{2cm}}$$

$$2^5 = \underline{\hspace{2cm}}$$

$$3^4 = \underline{\hspace{2cm}}$$

$$2^4 = \underline{\hspace{2cm}}$$

$$12^2 = \underline{\hspace{2cm}}$$

$$10^3 = \underline{\hspace{2cm}}$$

$$20^2 = \underline{\hspace{2cm}}$$

$$2^3 = \underline{\hspace{2cm}}$$

$$3^2 = \underline{\hspace{2cm}}$$

$$5^2 = \underline{\hspace{2cm}}$$

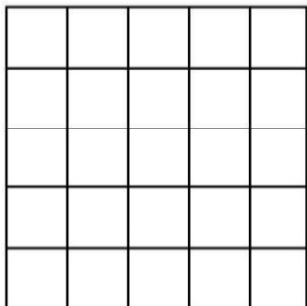
$$4^3 = \underline{\hspace{2cm}}$$

$$6^2 = \underline{\hspace{2cm}}$$

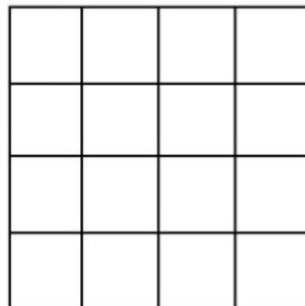
$$5^3 = \underline{\hspace{2cm}}$$

$$4^2 = \underline{\hspace{2cm}}$$

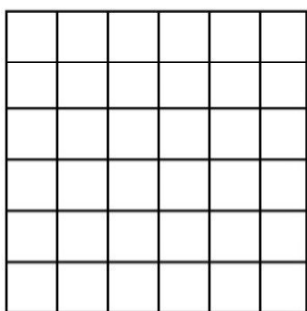
$$7^2 = \underline{\hspace{2cm}}$$



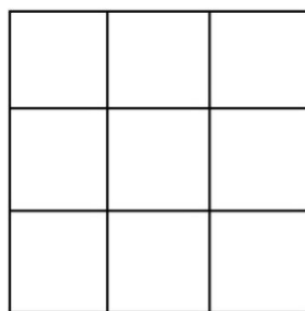
$$\sqrt{25} = \underline{\hspace{2cm}}$$



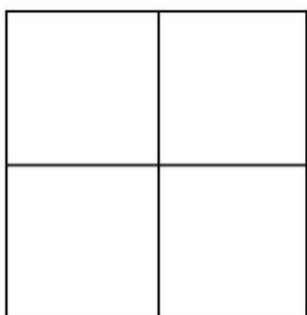
$$\sqrt{16} = \underline{\hspace{2cm}}$$



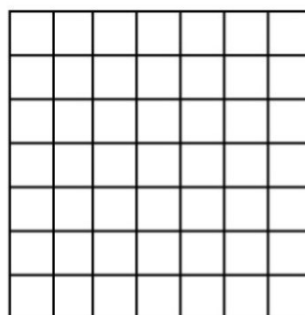
$$\sqrt{36} = \underline{\hspace{2cm}}$$



$$\sqrt{9} = \underline{\hspace{2cm}}$$

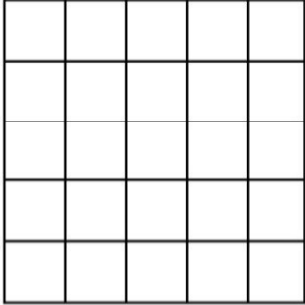


$$\sqrt{4} = \underline{\hspace{2cm}}$$

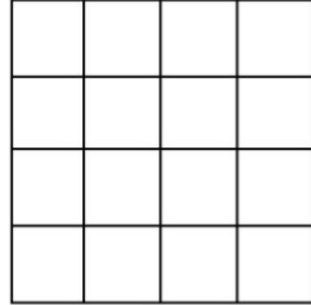


$$\sqrt{49} = \underline{\hspace{2cm}}$$

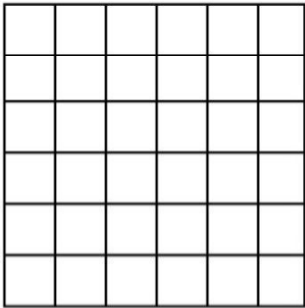
Answer Key



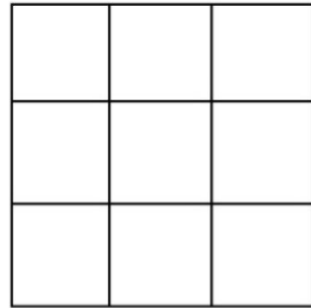
$$\sqrt{25} = \underline{5}$$



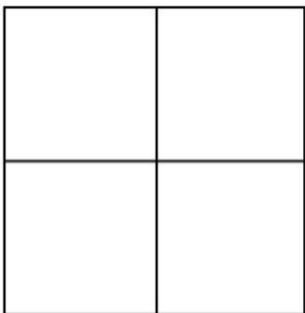
$$\sqrt{16} = \underline{4}$$



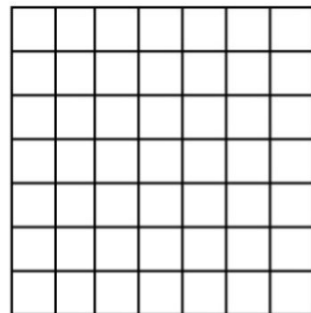
$$\sqrt{36} = \underline{6}$$



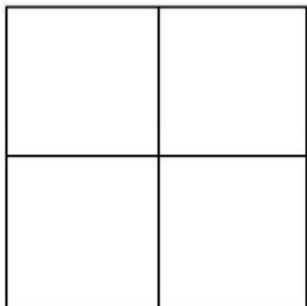
$$\sqrt{9} = \underline{3}$$



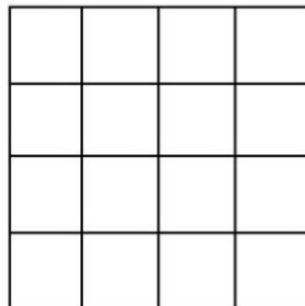
$$\sqrt{4} = \underline{2}$$



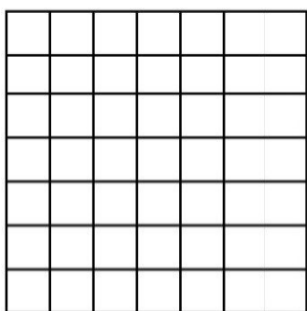
$$\sqrt{49} = \underline{7}$$



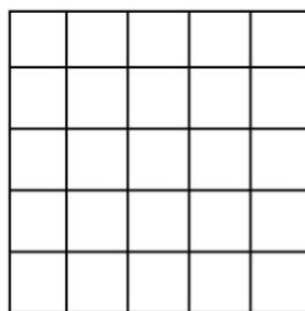
$$\sqrt{4} = \underline{\hspace{2cm}}$$



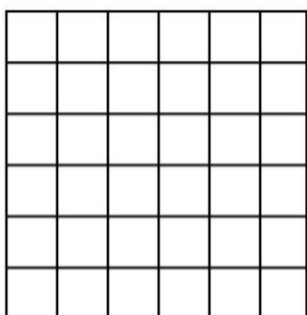
$$\sqrt{16} = \underline{\hspace{2cm}}$$



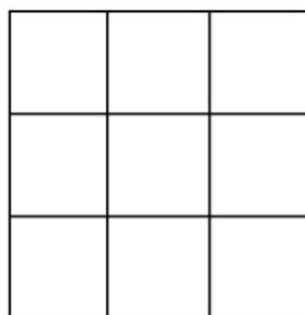
$$\sqrt{49} = \underline{\hspace{2cm}}$$



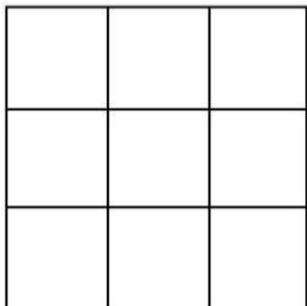
$$\sqrt{25} = \underline{\hspace{2cm}}$$



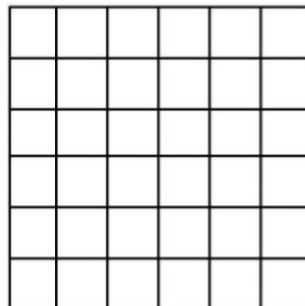
$$\sqrt{36} = \underline{\hspace{2cm}}$$



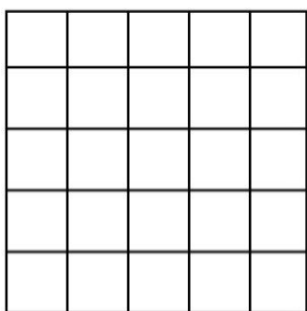
$$\sqrt{9} = \underline{\hspace{2cm}}$$



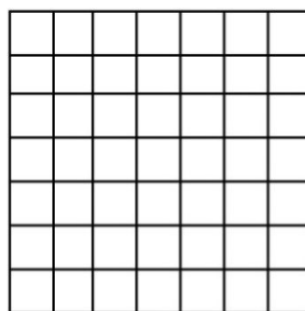
$$\sqrt{9} = \underline{\hspace{2cm}}$$



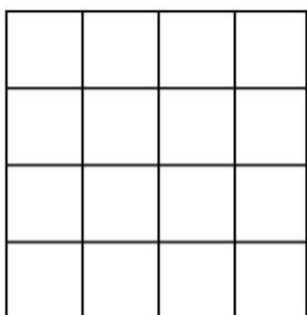
$$\sqrt{36} = \underline{\hspace{2cm}}$$



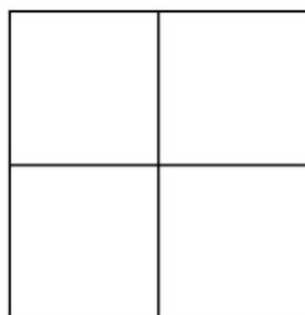
$$\sqrt{25} = \underline{\hspace{2cm}}$$



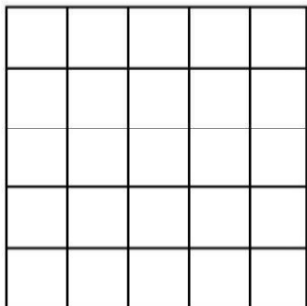
$$\sqrt{49} = \underline{\hspace{2cm}}$$



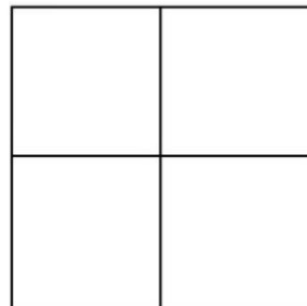
$$\sqrt{16} = \underline{\hspace{2cm}}$$



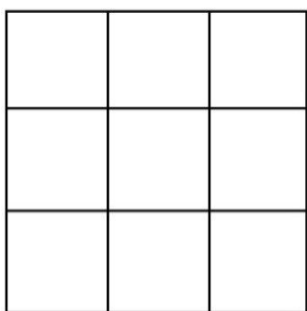
$$\sqrt{4} = \underline{\hspace{2cm}}$$



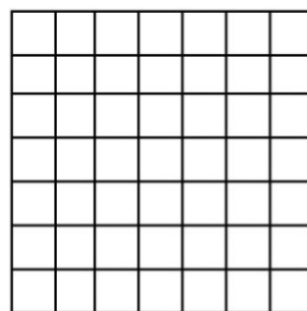
$$\sqrt{25} = \underline{\hspace{2cm}}$$



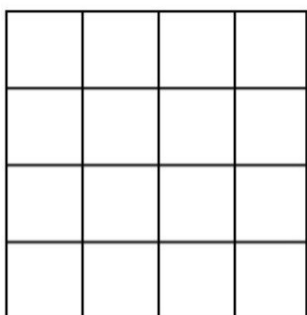
$$\sqrt{4} = \underline{\hspace{2cm}}$$



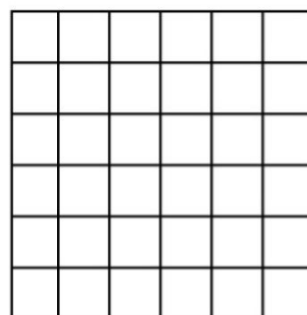
$$\sqrt{9} = \underline{\hspace{2cm}}$$



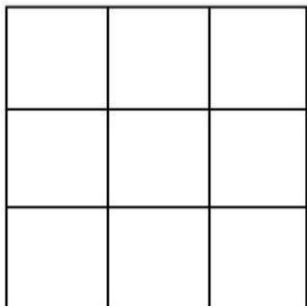
$$\sqrt{49} = \underline{\hspace{2cm}}$$



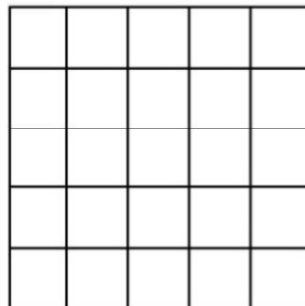
$$\sqrt{16} = \underline{\hspace{2cm}}$$



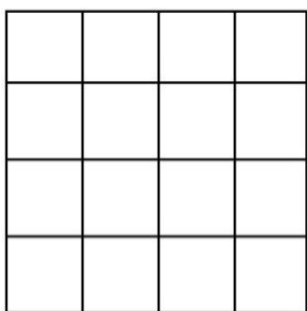
$$\sqrt{36} = \underline{\hspace{2cm}}$$



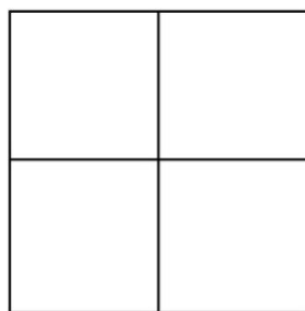
$$\sqrt{9} = \underline{\hspace{2cm}}$$



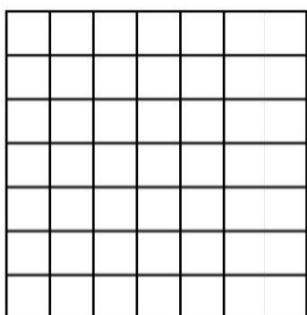
$$\sqrt{25} = \underline{\hspace{2cm}}$$



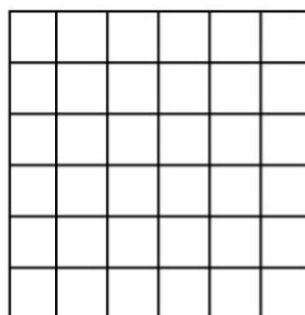
$$\sqrt{16} = \underline{\hspace{2cm}}$$



$$\sqrt{4} = \underline{\hspace{2cm}}$$



$$\sqrt{49} = \underline{\hspace{2cm}}$$



$$\sqrt{36} = \underline{\hspace{2cm}}$$

Find the largest whole number that is less than the given square root and the smallest whole number that is greater than the given square root.

$$\underline{\hspace{1cm}} < \sqrt{79} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{68} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{51} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{69} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{95} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{48} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{67} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{58} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{39} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{32} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{98} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{44} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{71} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{73} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{15} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{21} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{77} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{54} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{80} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{34} < \underline{\hspace{1cm}}$$

Answer Key

Find the largest whole number that is less than the given square root and the smallest whole number that is greater than the given square root.

$$\underline{8} < \sqrt{79} < \underline{9}$$

$$\underline{8} < \sqrt{68} < \underline{9}$$

$$\underline{7} < \sqrt{51} < \underline{8}$$

$$\underline{8} < \sqrt{69} < \underline{9}$$

$$\underline{9} < \sqrt{95} < \underline{10}$$

$$\underline{6} < \sqrt{48} < \underline{7}$$

$$\underline{8} < \sqrt{67} < \underline{9}$$

$$\underline{7} < \sqrt{58} < \underline{8}$$

$$\underline{6} < \sqrt{39} < \underline{7}$$

$$\underline{5} < \sqrt{32} < \underline{6}$$

$$\underline{9} < \sqrt{98} < \underline{10}$$

$$\underline{6} < \sqrt{44} < \underline{7}$$

$$\underline{8} < \sqrt{71} < \underline{9}$$

$$\underline{8} < \sqrt{73} < \underline{9}$$

$$\underline{3} < \sqrt{15} < \underline{4}$$

$$\underline{4} < \sqrt{21} < \underline{5}$$

$$\underline{8} < \sqrt{77} < \underline{9}$$

$$\underline{7} < \sqrt{54} < \underline{8}$$

$$\underline{8} < \sqrt{80} < \underline{9}$$

$$\underline{5} < \sqrt{34} < \underline{6}$$

Find the largest whole number that is less than the given square root and the smallest whole number that is greater than the given square root.

$$\underline{\hspace{1cm}} < \sqrt{77} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{44} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{47} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{82} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{75} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{24} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{23} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{22} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{13} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{57} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{19} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{99} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{93} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{92} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{45} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{27} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{90} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{88} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{55} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{97} < \underline{\hspace{1cm}}$$

Find the largest whole number that is less than the given square root and the smallest whole number that is greater than the given square root.

$$\underline{\hspace{1cm}} < \sqrt{43} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{46} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{78} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{71} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{14} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{27} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{79} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{76} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{39} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{12} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{84} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{70} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{73} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{10} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{53} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{67} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{80} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{82} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{94} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{66} < \underline{\hspace{1cm}}$$

Find the largest whole number that is less than the given square root and the smallest whole number that is greater than the given square root.

$$\underline{\hspace{1cm}} < \sqrt{52} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{75} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{22} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{43} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{85} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{23} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{32} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{83} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{53} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{29} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{82} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{74} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{91} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{62} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{97} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{98} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{90} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{33} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{26} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{59} < \underline{\hspace{1cm}}$$

Find the largest whole number that is less than the given square root and the smallest whole number that is greater than the given square root.

$$\underline{\hspace{1cm}} < \sqrt{13} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{65} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{83} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{24} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{52} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{98} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{12} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{44} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{28} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{85} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{22} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{78} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{32} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{80} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{79} < \underline{\hspace{1cm}}$$

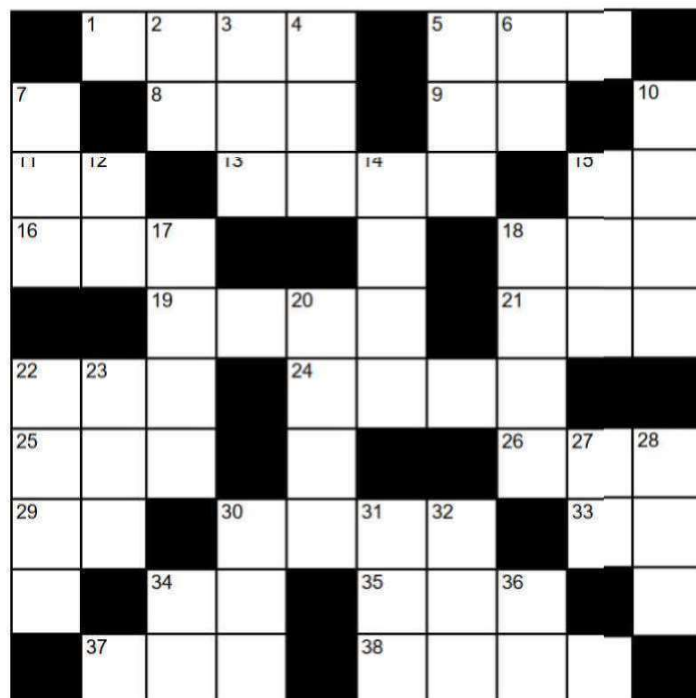
$$\underline{\hspace{1cm}} < \sqrt{38} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{88} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{37} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{34} < \underline{\hspace{1cm}}$$

$$\underline{\hspace{1cm}} < \sqrt{96} < \underline{\hspace{1cm}}$$



Across

1. $2974 - 1122$
5. $15 \times 22 + 145$
8. $123 \times 3 + 165$
9. $17 - 5$
11. $3 \times 3 + 3$
13. $1636 + 958$
15. $49 + 39$
16. $975 - 293$
18. $229 \times 2 + 160$
19. $5560 - 2616$
21. $163 + 242 + 353$
22. $36 \times 28 - 234$
24. 2×4937
25. $1490 - 602$
26. 4×146
29. $103 - 38$
30. $1054 + 892 + 1602$
33. 31×2
34. $6 + 9$
35. $946 - 208$
37. $1727 - 827$
38. 25×185

Down

2. $28 + 23 + 34$
3. $877 - 345$
4. $489 - 244$
5. 6×69
6. $15 + 10 + 14 + 33$
7. 4×79
10. $644 + 451 + 599 + 1194$
12. $2 \times 11 + 6$
14. 164×57
15. $20 \times 33 + 155$
17. $1468 + 780$
18. $1409 + 1783 + 1043 + 2510$
20. $78 \times 44 + 1533$
22. $2118 + 2531 + 3213$
23. 157×5
27. 2×43
28. $4 \times 77 + 112$
30. $16 \times 16 + 94$
31. $36 \times 16 - 102$
32. 4×209
34. 5×2
36. $127 - 45$

PERCENTAGE

2, 5, 5

What is the mean? _____

What is the median? _____

What is the mode? _____

5, 5, 8

What is the mean? _____

What is the median? _____

What is the mode? _____

3, 3, 9

What is the mean? _____

What is the median? _____

What is the mode? _____

3, 3, 6

What is the mean? _____

What is the median? _____

What is the mode? _____

4, 7, 7

What is the mean? _____

What is the median? _____

What is the mode? _____

5, 8, 8

What is the mean? _____

What is the median? _____

What is the mode? _____

Answer Key

2, 5, 5

What is the mean? 4

What is the median? 5

What is the mode? 5

5, 5, 8

What is the mean? 6

What is the median? 5

What is the mode? 5

3, 3, 9

What is the mean? 5

What is the median? 3

What is the mode? 3

3, 3, 6

What is the mean? 4

What is the median? 3

What is the mode? 3

4, 7, 7

What is the mean? 6

What is the median? 7

What is the mode? 7

5, 8, 8

What is the mean? 7

What is the median? 8

What is the mode? 8

3, 3, 9

What is the mean? _____

What is the median? _____

What is the mode? _____

4, 7, 7

What is the mean? _____

What is the median? _____

What is the mode? _____

5, 5, 8

What is the mean? _____

What is the median? _____

What is the mode? _____

6, 6, 9

What is the mean? _____

What is the median? _____

What is the mode? _____

3, 6, 6, 7, 8

What is the mean? _____

What is the median? _____

What is the mode? _____

2, 2, 4, 5, 7

What is the mean? _____

What is the median? _____

What is the mode? _____

3, 6, 6

What is the mean? _____

What is the median? _____

What is the mode? _____

2, 2, 2, 4, 5

What is the mean? _____

What is the median? _____

What is the mode? _____

3, 3, 6

What is the mean? _____

What is the median? _____

What is the mode? _____

2, 2, 5

What is the mean? _____

What is the median? _____

What is the mode? _____

2, 2, 4, 5, 7

What is the mean? _____

What is the median? _____

What is the mode? _____

4, 4, 7

What is the mean? _____

What is the median? _____

What is the mode? _____

4, 5, 5, 5, 6

What is the mean? _____

What is the median? _____

What is the mode? _____

4, 7, 7

What is the mean? _____

What is the median? _____

What is the mode? _____

2, 3, 3, 4, 8

What is the mean? _____

What is the median? _____

What is the mode? _____

3, 6, 6, 7, 8

What is the mean? _____

What is the median? _____

What is the mode? _____

5, 6, 6, 6, 7

What is the mean? _____

What is the median? _____

What is the mode? _____

5, 8, 8

What is the mean? _____

What is the median? _____

What is the mode? _____

1, 1, 1, 2, 5

What is the mean? _____

What is the median? _____

What is the mode? _____

1, 1, 6, 6, 6

What is the mean? _____

What is the median? _____

What is the mode? _____

4, 5, 6, 6, 9

What is the mean? _____

What is the median? _____

What is the mode? _____

3, 3, 3, 4, 7

What is the mean? _____

What is the median? _____

What is the mode? _____

3, 4, 5, 5, 8

What is the mean? _____

What is the median? _____

What is the mode? _____

3, 9, 9

What is the mean? _____

What is the median? _____

What is the mode? _____

Use the given mean to find the missing number in each data set.

16, 22, _____ Mean = 17

23, 33, _____ Mean = 22

34, 23, _____ Mean = 33

40, 25, _____ Mean = 34

Answer Key

Use the given mean to find the missing number in each data set.

$$16, 22, \underline{13} \quad \text{Mean} = 17$$

$$(16 + 22 + x) / 3 = 17$$

$$(38 + x) / 3 = 17$$

$$38 + x = 17 \times 3$$

$$x = 51 - 38$$

$$x = 13$$

$$23, 33, \underline{10} \quad \text{Mean} = 22$$

$$(23 + 33 + x) / 3 = 22$$

$$(56 + x) / 3 = 22$$

$$56 + x = 22 \times 3$$

$$x = 66 - 56$$

$$x = 10$$

$$34, 23, \underline{42} \quad \text{Mean} = 33$$

$$(34 + 23 + x) / 3 = 33$$

$$(57 + x) / 3 = 33$$

$$57 + x = 33 \times 3$$

$$x = 99 - 57$$

$$x = 42$$

$$40, 25, \underline{37} \quad \text{Mean} = 34$$

$$(40 + 25 + x) / 3 = 34$$

$$(65 + x) / 3 = 34$$

$$65 + x = 34 \times 3$$

$$x = 102 - 65$$

$$x = 37$$

Use the given mean to find the missing number in each data set.

14, 31, _____ Mean = 26

33, 13, _____ Mean = 27

21, 32, 33, _____ Mean = 28

13, 48, 34, 44, _____ Mean = 32

Use the given mean to find the missing number in each data set.

7, 32, 22, _____ Mean = 23

20, 26, 21, _____ Mean = 24

6, 9, _____ Mean = 14

27, 7, _____ Mean = 19

Use the given mean to find the missing number in each data set.

32, 16, 39, _____ Mean = 30

11, 21, 44, _____ Mean = 23

41, 45, _____ Mean = 42

16, 47, _____ Mean = 35

Use the given mean to find the missing number in each data set.

5, 44, 31, _____ Mean = 25

11, 9, _____ Mean = 13

31, 39, _____ Mean = 37

32, 38, _____ Mean = 30

Fraction	Decimal	Percent
	0.05	5%
$\frac{1}{10}$	0.1	
$\frac{1}{8}$		$12\frac{1}{2}\%$
$\frac{1}{5}$	0.2	
$\frac{1}{4}$	0.25	
$\frac{3}{10}$	0.3	
$\frac{1}{3}$		$33\frac{1}{3}\%$
$\frac{3}{8}$	0.375	
	0.4	40%
$\frac{1}{2}$		50%
$\frac{3}{5}$	0.6	
$\frac{5}{8}$	0.625	
$\frac{2}{3}$		$66\frac{2}{3}\%$
	0.7	70%
$\frac{3}{4}$	0.75	
$\frac{4}{5}$		80%
$\frac{9}{10}$	0.9	

Answer Key

Fraction	Decimal	Percent
$\frac{1}{20}$	0.05	5%
$\frac{1}{10}$	0.1	10%
$\frac{1}{8}$	0.125	$12\frac{1}{2}\%$
$\frac{1}{5}$	0.2	20%
$\frac{1}{4}$	0.25	25%
$\frac{3}{10}$	0.3	30%
$\frac{1}{3}$	$0.\overline{3}$	$33\frac{1}{3}\%$
$\frac{3}{8}$	0.375	$37\frac{1}{2}\%$
$\frac{2}{5}$	0.4	40%
$\frac{1}{2}$	0.5	50%
$\frac{3}{5}$	0.6	60%
$\frac{5}{8}$	0.625	$62\frac{1}{2}\%$
$\frac{2}{3}$	$0.\overline{6}$	$66\frac{2}{3}\%$
$\frac{7}{10}$	0.7	70%
$\frac{3}{4}$	0.75	75%
$\frac{4}{5}$	0.8	80%
$\frac{9}{10}$	0.9	90%

Fraction	Decimal	Percent
$\frac{1}{20}$	0.05	
	0.1	10%
$\frac{1}{8}$		$12\frac{1}{2}\%$
$\frac{1}{5}$		20%
$\frac{1}{4}$	0.25	
$\frac{3}{10}$		30%
$\frac{1}{3}$	$0.\overline{3}$	
	0.375	$37\frac{1}{2}\%$
$\frac{2}{5}$		40%
$\frac{1}{2}$	0.5	
	0.6	60%
$\frac{5}{8}$		$62\frac{1}{2}\%$
$\frac{2}{3}$	$0.\overline{6}$	
$\frac{7}{10}$	0.7	
$\frac{3}{4}$	0.75	
	0.8	80%
$\frac{9}{10}$		90%

Fraction	Decimal	Percent
$\frac{1}{20}$	0.05	
	0.1	10%
$\frac{1}{8}$	0.125	
	0.2	20%
$\frac{1}{4}$		25%
$\frac{3}{10}$	0.3	
$\frac{1}{3}$		$33\frac{1}{3}\%$
$\frac{3}{8}$	0.375	
	0.4	40%
$\frac{1}{2}$	0.5	
	0.6	60%
$\frac{5}{8}$		$62\frac{1}{2}\%$
$\frac{2}{3}$	$0.\overline{6}$	
	0.7	70%
	0.75	75%
$\frac{4}{5}$		80%
	0.9	90%

Fraction	Decimal	Percent
$\frac{1}{20}$	0.05	
	0.1	10%
$\frac{1}{8}$	0.125	
$\frac{1}{5}$	0.2	
$\frac{1}{4}$	0.25	
$\frac{3}{10}$	0.3	
	$0.\overline{3}$	$33\frac{1}{3}\%$
$\frac{3}{8}$		$37\frac{1}{2}\%$
$\frac{2}{5}$	0.4	
$\frac{1}{2}$		50%
	0.6	60%
$\frac{5}{8}$	0.625	
	$0.\overline{6}$	$66\frac{2}{3}\%$
	0.7	70%
$\frac{3}{4}$	0.75	
$\frac{4}{5}$		80%
	0.9	90%

Fraction	Decimal	Percent
$\frac{1}{20}$		5%
$\frac{1}{10}$		10%
$\frac{1}{8}$	0.125	
	0.2	20%
$\frac{1}{4}$		25%
$\frac{3}{10}$		30%
$\frac{1}{3}$		$33\frac{1}{3}\%$
$\frac{3}{8}$		$37\frac{1}{2}\%$
$\frac{2}{5}$		40%
$\frac{1}{2}$		50%
$\frac{3}{5}$		60%
	0.625	$62\frac{1}{2}\%$
$\frac{2}{3}$		$66\frac{2}{3}\%$
$\frac{7}{10}$	0.7	
$\frac{3}{4}$		75%
$\frac{4}{5}$	0.8	
$\frac{9}{10}$		90%

Convert each decimal to a percent.

$0.88 =$

$0.64 =$

$0.8 =$

$0.45 =$

$0.36 =$

$0.56 =$

$0.55 =$

$0.35 =$

$0.76 =$

$0.68 =$

Answer Key

Convert each decimal to a percent.

$$0.\underline{88} = 88\%$$

$$0.\underline{64} = 64\%$$

$$0.\underline{80} = 80\%$$

$$0.\underline{45} = 45\%$$

$$0.\underline{36} = 36\%$$

$$0.\underline{56} = 56\%$$

$$0.\underline{55} = 55\%$$

$$0.\underline{35} = 35\%$$

$$0.\underline{76} = 76\%$$

$$0.\underline{68} = 68\%$$

Convert each decimal to a percent.

$0.76 =$

$0.16 =$

$0.68 =$

$0.52 =$

$0.08 =$

$0.65 =$

$0.88 =$

$0.72 =$

$0.8 =$

$0.6 =$

Convert each decimal to a percent.

$0.4 =$

$0.55 =$

$0.48 =$

$0.84 =$

$0.92 =$

$0.65 =$

$0.88 =$

$0.96 =$

$0.95 =$

$0.12 =$

Convert each decimal to a percent.

$0.44 =$

$0.55 =$

$0.4 =$

$0.36 =$

$0.8 =$

$0.64 =$

$0.92 =$

$0.6 =$

$0.28 =$

$0.48 =$

Convert each decimal to a percent.

$0.95 =$

$0.56 =$

$0.52 =$

$0.92 =$

$0.4 =$

$0.72 =$

$0.6 =$

$0.88 =$

$0.24 =$

$0.15 =$

$$10\% \times 849,700 = \underline{\hspace{2cm}}$$

$$100\% \times 2,070 = \underline{\hspace{2cm}}$$

$$1\% \times 458,000 = \underline{\hspace{2cm}}$$

$$10\% \times 733,200 = \underline{\hspace{2cm}}$$

$$100\% \times 73,640 = \underline{\hspace{2cm}}$$

$$100\% \times 45,950 = \underline{\hspace{2cm}}$$

$$1\% \times 890,000 = \underline{\hspace{2cm}}$$

$$1\% \times 704,000 = \underline{\hspace{2cm}}$$

$$1\% \times 6,424,000 = \underline{\hspace{2cm}}$$

$$100\% \times 570 = \underline{\hspace{2cm}}$$

Answer Key

$$\begin{array}{l} 10\% \times 849,700 = \underline{\hspace{2cm}} \\ 0.1 \times 849,700 = 84,970 \end{array}$$

$$\begin{array}{l} 100\% \times 2,070 = \underline{\hspace{2cm}} \\ 1 \times 2,070 = 2,070 \end{array}$$

$$\begin{array}{l} 1\% \times 458,000 = \underline{\hspace{2cm}} \\ 0.01 \times 458,000 = 4,580 \end{array}$$

$$\begin{array}{l} 10\% \times 733,200 = \underline{\hspace{2cm}} \\ 0.1 \times 733,200 = 73,320 \end{array}$$

$$\begin{array}{l} 100\% \times 73,640 = \underline{\hspace{2cm}} \\ 1 \times 73,640 = 73,640 \end{array}$$

$$\begin{array}{l} 100\% \times 45,950 = \underline{\hspace{2cm}} \\ 1 \times 45,950 = 45,950 \end{array}$$

$$\begin{array}{l} 1\% \times 890,000 = \underline{\hspace{2cm}} \\ 0.01 \times 890,000 = 8,900 \end{array}$$

$$\begin{array}{l} 1\% \times 704,000 = \underline{\hspace{2cm}} \\ 0.01 \times 704,000 = 7,040 \end{array}$$

$$\begin{array}{l} 1\% \times 6,424,000 = \underline{\hspace{2cm}} \\ 0.01 \times 6,424,000 = 64,240 \end{array}$$

$$\begin{array}{l} 100\% \times 570 = \underline{\hspace{2cm}} \\ 1 \times 570 = 570 \end{array}$$

$1\% \times 8,049,000 = \underline{\hspace{2cm}}$

$10\% \times 19,600 = \underline{\hspace{2cm}}$

$1\% \times 221,000 = \underline{\hspace{2cm}}$

$1\% \times 621,000 = \underline{\hspace{2cm}}$

$100\% \times 33,360 = \underline{\hspace{2cm}}$

$100\% \times 1,868 = \underline{\hspace{2cm}}$

$10\% \times 96,700 = \underline{\hspace{2cm}}$

$100\% \times 3,130 = \underline{\hspace{2cm}}$

$10\% \times 633,000 = \underline{\hspace{2cm}}$

$1\% \times 114,000 = \underline{\hspace{2cm}}$

$10\% \times 16,400 = \underline{\hspace{2cm}}$

$100\% \times 2,890 = \underline{\hspace{2cm}}$

$10\% \times 901,200 = \underline{\hspace{2cm}}$

$10\% \times 6,190 = \underline{\hspace{2cm}}$

$1\% \times 88,300 = \underline{\hspace{2cm}}$

$1\% \times 8,920,000 = \underline{\hspace{2cm}}$

$100\% \times 6,880 = \underline{\hspace{2cm}}$

$1\% \times 7,241,000 = \underline{\hspace{2cm}}$

$10\% \times 608,000 = \underline{\hspace{2cm}}$

$100\% \times 13,370 = \underline{\hspace{2cm}}$

$1\% \times 2,174,000 = \underline{\hspace{2cm}}$

$100\% \times 55,590 = \underline{\hspace{2cm}}$

$1\% \times 79,000 = \underline{\hspace{2cm}}$

$10\% \times 7,090 = \underline{\hspace{2cm}}$

$100\% \times 3,922 = \underline{\hspace{2cm}}$

$10\% \times 59,100 = \underline{\hspace{2cm}}$

$1\% \times 147,400 = \underline{\hspace{2cm}}$

$10\% \times 433,700 = \underline{\hspace{2cm}}$

$100\% \times 665,600 = \underline{\hspace{2cm}}$

$10\% \times 1,335,000 = \underline{\hspace{2cm}}$

$100\% \times 86,650 = \underline{\hspace{2cm}}$

$10\% \times 3,057,000 = \underline{\hspace{2cm}}$

$1\% \times 8,417,000 = \underline{\hspace{2cm}}$

$1\% \times 3,802,000 = \underline{\hspace{2cm}}$

$100\% \times 1,880 = \underline{\hspace{2cm}}$

$1\% \times 7,701,000 = \underline{\hspace{2cm}}$

$10\% \times 4,790 = \underline{\hspace{2cm}}$

$100\% \times 1,720 = \underline{\hspace{2cm}}$

$1\% \times 933,000 = \underline{\hspace{2cm}}$

$10\% \times 322,000 = \underline{\hspace{2cm}}$

$221 \div 68\% = \underline{\hspace{2cm}}$

$361 \div 95\% = \underline{\hspace{2cm}}$

$44\% \times 325 = \underline{\hspace{2cm}}$

$85\% \times 20 = \underline{\hspace{2cm}}$

$13 \div 65 = \underline{\hspace{1cm}}\%$

$14\% \times 50 = \underline{\hspace{2cm}}$

$133 \div 190 = \underline{\hspace{1cm}}\%$

$7 \div 25\% = \underline{\hspace{2cm}}$

Answer Key

$$\begin{aligned} 221 \div 68\% &= \underline{\hspace{2cm}} \\ 221 \div 0.68 &= 325 \end{aligned}$$

$$\begin{aligned} 361 \div 95\% &= \underline{\hspace{2cm}} \\ 361 \div 0.95 &= 380 \end{aligned}$$

$$\begin{aligned} 44\% \times 325 &= \underline{\hspace{2cm}} \\ 0.44 \times 325 &= 143 \end{aligned}$$

$$\begin{aligned} 85\% \times 20 &= \underline{\hspace{2cm}} \\ 0.85 \times 20 &= 17 \end{aligned}$$

$$\begin{aligned} 13 \div 65 &= \underline{\hspace{2cm}}\% \\ 13 \div 65 &= 0.2 \\ 13 \div 65 &= 20\% \end{aligned}$$

$$\begin{aligned} 14\% \times 50 &= \underline{\hspace{2cm}} \\ 0.14 \times 50 &= 7 \end{aligned}$$

$$\begin{aligned} 133 \div 190 &= \underline{\hspace{2cm}}\% \\ 133 \div 190 &= 0.7 \\ 133 \div 190 &= 70\% \end{aligned}$$

$$\begin{aligned} 7 \div 25\% &= \underline{\hspace{2cm}} \\ 7 \div 0.25 &= 28 \end{aligned}$$

$23 \div 20\% = \underline{\hspace{2cm}}$

$7 \div 50 = \underline{\hspace{2cm}}\%$

$7 \div 20 = \underline{\hspace{2cm}}\%$

$65\% \times 60 = \underline{\hspace{2cm}}$

$5\% \times 340 = \underline{\hspace{2cm}}$

$51 \div 204 = \underline{\hspace{2cm}}\%$

$91 \div 70\% = \underline{\hspace{2cm}}$

$30\% \times 110 = \underline{\hspace{2cm}}$

$$11 \div 20 = \underline{\hspace{1cm}}\%$$

$$63 \div 42\% = \underline{\hspace{1cm}}$$

$$75\% \times 44 = \underline{\hspace{1cm}}$$

$$12\% \times 175 = \underline{\hspace{1cm}}$$

$$39 \div 30\% = \underline{\hspace{1cm}}$$

$$77 \div 110 = \underline{\hspace{1cm}}\%$$

$$13 \div 65 = \underline{\hspace{1cm}}\%$$

$$25\% \times 52 = \underline{\hspace{1cm}}$$

$$19 \div 380 = \underline{\hspace{1cm}}\%$$

$$20\% \times 85 = \underline{\hspace{1cm}}$$

$$17 \div 68\% = \underline{\hspace{1cm}}$$

$$57 \div 30\% = \underline{\hspace{1cm}}$$

$$95\% \times 220 = \underline{\hspace{1cm}}$$

$$3 \div 20 = \underline{\hspace{1cm}}\%$$

$$21 \div 30 = \underline{\hspace{1cm}}\%$$

$$23 \div 25\% = \underline{\hspace{1cm}}$$

$$85\% \times 220 = \underline{\hspace{2cm}}$$

$$23 \div 25\% = \underline{\hspace{2cm}}$$

$$21 \div 15\% = \underline{\hspace{2cm}}$$

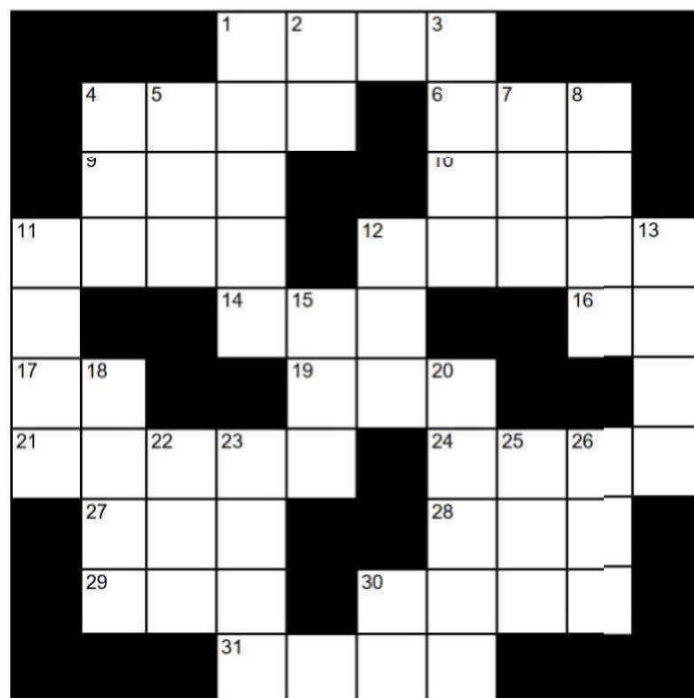
$$70\% \times 230 = \underline{\hspace{2cm}}$$

$$33 \div 55 = \underline{\hspace{2cm}}\%$$

$$30\% \times 170 = \underline{\hspace{2cm}}$$

$$23 \div 50 = \underline{\hspace{2cm}}\%$$

$$299 \div 92\% = \underline{\hspace{2cm}}$$



Across

1. 6×1033
4. 8×692
6. $262 + 294$
9. $109 \times 11 - 237$
10. $787 - 293$
11. 1011×2
12. 11309×4
14. $28 \times 14 + 188$
16. $30 + 29 + 21$
17. $5 \times 5 + 10$
19. $353 + 233$
21. $6108 + 5695 + 10461$
24. $5465 - 2679$
27. $88 + 112 + 225$
28. 27×4
29. $942 - 302$
30. $1229 \times 5 + 3057$
31. 6×1347

Down

1. $38231 \times 2 - 13237$
2. $21 - 5$
3. $8 \times 766 + 2417$
4. $818 - 228$
5. 2×281
7. $155 + 205 + 232$
8. $1367 + 1699 + 3372$
11. $3924 - 1692$
12. $6 \times 89 - 126$
13. $1421 + 902 - 1608 + 2145$
15. 427×2
18. $10250 - 5004$
20. $100456 - 38334$
22. $378 - 154$
23. $4259 + 2249$
25. $9 \times 58 + 178$
26. $563 \times 2 - 244$
30. 14×7

LCM & GCF

Find the Least Common Multiple of each number pair.

14, 4 _____

10, 15 _____

8, 32 _____

2, 8 _____

18, 4 _____

9, 12 _____

27, 3 _____

9, 6 _____

32, 2 _____

7, 35 _____

Answer Key

Find the Least Common Multiple of each number pair.

$$14, 4 \quad \underline{28}$$

$$10, 15 \quad \underline{30}$$

$$8, 32 \quad \underline{32}$$

$$2, 8 \quad \underline{8}$$

$$18, 4 \quad \underline{36}$$

$$9, 12 \quad \underline{36}$$

$$27, 3 \quad \underline{27}$$

$$9, 6 \quad \underline{18}$$

$$32, 2 \quad \underline{32}$$

$$7, 35 \quad \underline{35}$$

Find the Least Common Multiple of each number pair.

25, 5 _____

2, 32 _____

4, 16 _____

32, 16 _____

12, 9 _____

14, 7 _____

10, 15 _____

6, 10 _____

12, 8 _____

15, 6 _____

Find the Least Common Multiple of each number pair.

6, 9 _____

12, 8 _____

32, 8 _____

2, 14 _____

6, 10 _____

16, 2 _____

4, 6 _____

28, 7 _____

14, 7 _____

12, 18 _____

Find the Least Common Multiple of each number pair.

27, 3 _____

9, 2 _____

18, 4 _____

9, 12 _____

15, 10 _____

11, 3 _____

6, 4 _____

25, 5 _____

4, 8 _____

10, 6 _____

Find the Least Common Multiple of each number pair.

6, 8 _____

15, 6 _____

7, 2 _____

8, 4 _____

10, 15 _____

25, 5 _____

16, 2 _____

8, 32 _____

14, 4 _____

4, 10 _____

Find the Greatest Common Factor of each number pair.

5, 6 _____

4, 10 _____

6, 12 _____

3, 4 _____

6, 7 _____

8, 10 _____

8, 6 _____

8, 2 _____

6, 4 _____

3, 2 _____

Answer Key

Find the Greatest Common Factor of each number pair.

$$5, 6 \quad \underline{1}$$

$$4, 10 \quad \underline{2}$$

$$6, 12 \quad \underline{6}$$

$$3, 4 \quad \underline{1}$$

$$6, 7 \quad \underline{1}$$

$$8, 10 \quad \underline{2}$$

$$8, 6 \quad \underline{2}$$

$$8, 2 \quad \underline{2}$$

$$6, 4 \quad \underline{2}$$

$$3, 2 \quad \underline{1}$$

Find the Greatest Common Factor of each number pair.

5, 3 _____

8, 6 _____

4, 9 _____

5, 4 _____

10, 12 _____

9, 2 _____

10, 4 _____

8, 2 _____

8, 10 _____

2, 10 _____

Find the Greatest Common Factor of each number pair.

4, 12 _____

6, 9 _____

8, 12 _____

4, 10 _____

5, 6 _____

10, 12 _____

2, 6 _____

12, 9 _____

3, 6 _____

2, 8 _____

Find the Greatest Common Factor of each number pair.

10, 4 _____

6, 10 _____

9, 6 _____

9, 12 _____

9, 2 _____

12, 6 _____

3, 4 _____

3, 5 _____

12, 4 _____

2, 12 _____

Find the Greatest Common Factor of each number pair.

8, 12 _____

4, 8 _____

12, 6 _____

9, 12 _____

10, 6 _____

3, 12 _____

2, 6 _____

2, 4 _____

4, 6 _____

5, 8 _____

The Greatest Common Factor of 44 and 66 is _____

The Least Common Multiple of 44 and 66 is _____

The Greatest Common Factor of 30 and 50 is _____

The Least Common Multiple of 30 and 50 is _____

The Greatest Common Factor of 45 and 60 is _____

The Least Common Multiple of 45 and 60 is _____

The Greatest Common Factor of 70 and 21 is _____

The Least Common Multiple of 70 and 21 is _____

The Greatest Common Factor of 18 and 27 is _____

The Least Common Multiple of 18 and 27 is _____

The Greatest Common Factor of 15 and 10 is _____

The Least Common Multiple of 15 and 10 is _____

The Greatest Common Factor of 28 and 42 is _____

The Least Common Multiple of 28 and 42 is _____

Answer Key

The Greatest Common Factor of 44 and 66 is 22

The Least Common Multiple of 44 and 66 is 132

The Greatest Common Factor of 30 and 50 is 10

The Least Common Multiple of 30 and 50 is 150

The Greatest Common Factor of 45 and 60 is 15

The Least Common Multiple of 45 and 60 is 180

The Greatest Common Factor of 70 and 21 is 7

The Least Common Multiple of 70 and 21 is 210

The Greatest Common Factor of 18 and 27 is 9

The Least Common Multiple of 18 and 27 is 54

The Greatest Common Factor of 15 and 10 is 5

The Least Common Multiple of 15 and 10 is 30

The Greatest Common Factor of 28 and 42 is 14

The Least Common Multiple of 28 and 42 is 84

The Greatest Common Factor of 84 and 56 is _____

The Least Common Multiple of 84 and 56 is _____

The Greatest Common Factor of 30 and 45 is _____

The Least Common Multiple of 30 and 45 is _____

The Greatest Common Factor of 30 and 20 is _____

The Least Common Multiple of 30 and 20 is _____

The Greatest Common Factor of 42 and 70 is _____

The Least Common Multiple of 42 and 70 is _____

The Greatest Common Factor of 12 and 9 is _____

The Least Common Multiple of 12 and 9 is _____

The Greatest Common Factor of 55 and 22 is _____

The Least Common Multiple of 55 and 22 is _____

The Greatest Common Factor of 12 and 8 is _____

The Least Common Multiple of 12 and 8 is _____

The Greatest Common Factor of 81 and 54 is _____

The Least Common Multiple of 81 and 54 is _____

The Greatest Common Factor of 16 and 56 is _____

The Least Common Multiple of 16 and 56 is _____

The Greatest Common Factor of 22 and 33 is _____

The Least Common Multiple of 22 and 33 is _____

The Greatest Common Factor of 27 and 18 is _____

The Least Common Multiple of 27 and 18 is _____

The Greatest Common Factor of 20 and 30 is _____

The Least Common Multiple of 20 and 30 is _____

The Greatest Common Factor of 42 and 28 is _____

The Least Common Multiple of 42 and 28 is _____

The Greatest Common Factor of 10 and 45 is _____

The Least Common Multiple of 10 and 45 is _____

The Greatest Common Factor of 66 and 44 is _____

The Least Common Multiple of 66 and 44 is _____

The Greatest Common Factor of 55 and 22 is _____

The Least Common Multiple of 55 and 22 is _____

The Greatest Common Factor of 63 and 42 is _____

The Least Common Multiple of 63 and 42 is _____

The Greatest Common Factor of 21 and 35 is _____

The Least Common Multiple of 21 and 35 is _____

The Greatest Common Factor of 84 and 56 is _____

The Least Common Multiple of 84 and 56 is _____

The Greatest Common Factor of 21 and 12 is _____

The Least Common Multiple of 21 and 12 is _____

The Greatest Common Factor of 45 and 18 is _____

The Least Common Multiple of 45 and 18 is _____

The Greatest Common Factor of 28 and 42 is _____

The Least Common Multiple of 28 and 42 is _____

The Greatest Common Factor of 12 and 15 is _____

The Least Common Multiple of 12 and 15 is _____

The Greatest Common Factor of 16 and 36 is _____

The Least Common Multiple of 16 and 36 is _____

The Greatest Common Factor of 88 and 16 is _____

The Least Common Multiple of 88 and 16 is _____

The Greatest Common Factor of 18 and 27 is _____

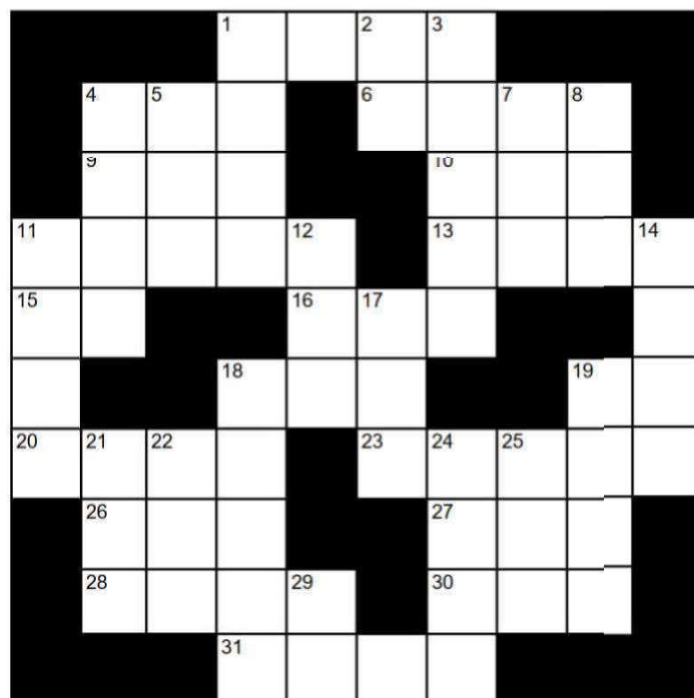
The Least Common Multiple of 18 and 27 is _____

The Greatest Common Factor of 30 and 45 is _____

The Least Common Multiple of 30 and 45 is _____

The Greatest Common Factor of 10 and 15 is _____

The Least Common Multiple of 10 and 15 is _____



Across

1. $22 \times 278 - 1118$
4. $125 + 197$
6. $7269 - 2274$
9. $570 - 212$
10. $457 + 417$
11. $267 \times 62 - 2526$
13. 562×9
15. 7×2
16. $437 - 152$
18. $1610 - 686$
19. $2 \times 47 - 19$
20. $2054 + 1335 + 2140 + 2683$
23. $28040 + 23164$
26. 50×4
27. 10×46
28. $3 \times 1123 - 834$
30. $825 - 325$
31. $456 + 578 + 1170$

Down

1. $1252 \times 4 - 726$
2. 2×47
3. $58035 + 31820$
4. 44×76
5. $488 - 238$
7. 194×5
8. $36 \times 20 - 175$
11. $1519 - 371$
12. $514 \times 2 - 208$
14. $111 \times 89 - 1325$
17. $1294 - 449$
18. $58016 + 34016$
19. $1365 + 1688 + 1307 + 2640$
21. 74×3
22. $6 \times 23 - 33$
24. $378 + 1076$
25. $326 - 66$
29. 4×13

BODMAS RULE

If a long sum (or expression) has no brackets, like $3 + 5 \times 5 =$ it has been agreed by mathematicians that the multiplying would be worked out before the addition, even if it does not appear first in the sum.

If a sum has a bracket as part of it, such as $4 \times (5 + 4) =$ then it has been agreed that the part inside the brackets will be calculated first.

There is an easy way to remember this: BODMAS

Brackets

Of

Division

Multiplication

Addition

Subtraction

Any sum in brackets is calculated first.

Division and multiplication are calculated before addition and subtraction.

Try these to get the idea!

1. $6 + 4 \times 2 =$

2. $4 + 4 \div 2 =$

3. $8 + 6 - 3 =$

4. $5 + 5 \times 4 =$

5. $12 + 3 \times 2 =$

6. $2 \times 4 + 5 =$

Remember BODMAS. Any calculations inside brackets must be completed before any other part of the sequence.

Without using a calculator work out the answers to the following sequences:

1. $100 - (20 \times 3) =$

2. $(35 - 15) + (27 - 7) =$

3. $15 + (6 \times 6) =$

4. $(4 + 5) \times (3 + 6) =$

5. $(5 + 5) \times (5 - 2) =$

6. $50 - (6 \times 6) =$

7. $(4 + 8) \times (3 - 2) =$

8. $(9 - 3) + (6 \times 6) =$

9. $(5 \times 7) - (2 \times 5) =$

10. $56 - (4 \times 7) =$

11. $78 - (10 \times 7) =$

12. $(7 \times 7) + (4 \times 8) =$

13. $(45 - 23) + (5 \times 8) =$

14. $38 - (5 \times 7) =$

15. $(100 - 45) + (7 \times 7) =$

16. $45 - (9 \times 4) =$

Just a couple of trickier problems.

By putting in brackets in different places, how many different sums and answers can you find for these two sequences:

1. $4 + 4 \times 5 - 3 =$

2. $8 + 5 \times 1 + 3 - 6 =$

Remember BODMAS shows you the order in which operations should be carried out.

What is the value of ;

1. $(4 \times 2) + (3 \times 3) =$

2. $(4 \times 4) + (5 \times 5) =$

3. $(6 \times 6) - (4 \times 4) =$

4. $(9 \times 9) - (8 \times 8) =$

5. $18 - (4 \times 2) =$

6. $4 \times (4 - 2) =$

7. $18 - (9 \times 4) + 32 =$

8. $(12 \times 12) - (11 \times 12) =$

9. $30 - (5 \times 4) =$

10. $67 - (9 \times 5) =$

11. $(8 + 6) \times 4 =$

12. $8 \times 7 - 3 =$

13. $(4 \times 9) - (4 \times 8) =$

14. $56 - (5 \times 9) =$

15. $72 - (8 \times 7) + 9 =$

16. $(9 \times 8) + (9 \times 8) =$

Remember BODMAS shows you the order in which operations should be carried out.

Write the following sums out without changing the order of the numbers. To make the sums correct put in the brackets if necessary to show which part has to be completed first.

$$8 + 4 \times 6 - 5 = 27$$

$$8 + 4 \times 6 - 5 = 12$$

$$8 + 4 \times 6 - 5 = 67$$

You can see the need for a rule on this otherwise everyone would be doing sums in different ways and getting different answers!

Put in the signs and/or brackets to make the following true:

1. $4 \quad 4 \quad 3 = 16$

6. $4 \quad 6 \quad 4 = 20$

2. $7 \quad 6 \quad 11 = 12$

7. $10 \quad 3 \quad 5 = 35$

3. $2 \quad 2 \quad 4 = 8$

8. $2 \quad 4 \quad 6 = 1$

4. $2 \quad 2 \quad 4 = 16$

9. $24 \quad 2 \quad 4 = 8$

5. $4 \quad 3 \quad 3 = 13$

10. $5 \quad 4 \quad 4 = 21$

Do you remember what these signs mean? < and >

< means is less than

> means is more than

Put the correct sign into the statements below. You will have to work out the sums first, remembering BODMAS

1. $6 + 4 \times 3$ $3 \times 4 + 6$

2. $8 \times 8 - 20$ $6 \times 6 + 20$

3. $2 \times 32 + 46$ $62 + 4 \times 9$

4. $8 + 8 \times 6$ $6 + 8 \times 8$

5. $120 - 6 \times 7$ $6 \times 7 + 40$

6. $140 + 4 \times 7$ $32 \times 5 + 5$

Investigate: Using only these numbers and signs make a statement or expression which will give you the biggest possible answer:

8 + 7 - 6 x 4 and one set of brackets.

SPEED CHECK: USING THE CORRECT SEQUENCE OF OPERATIONS

Time yourself on these questions to see how long it takes.
Remember to work out the answer in the right order (BODMAS)

1. $9 \times (4 + 4) =$ 2. $8 \times (3 + 8) =$ 3. $5 \times (6 + 3) =$

4. $8 + 24 \div 4 =$ 5. $7 + 63 \div 9 =$ 6. $5 + 21 \div 7 =$

7. $(4 + 7) \times 3 =$ 8. $(5 + 3) \times 6 =$ 9. $(7 + 2) \times 8 =$

10. $12 \div (2 + 4) =$ 11. $24 \div (7 + 5) =$

12. $45 \div (4 + 5) =$ 13. $63 \div (17 - 8) =$

14. $4 + 5 \times 9 =$ 15. $8 + 8 \times 8 =$ 16. $7 + 7 \times 7 =$

17. $6 + 6 \times 6 =$ 18. $9 + 9 \times 9 =$ 19. $81 - 4 \times 4 =$

20. $(18 + 15) - (13 + 12) =$

How long did you take?

Did you get them all correct?

SPEED CHECK: USING THE CORRECT SEQUENCE OF OPERATIONS

Time yourself on these questions to see how long it takes.
Remember to work out the answer in the right order (BODMAS).

1. $8 \times (5 + 4) =$ 2. $7 \times (4 + 8) =$ 3. $6 \times (6 + 4) =$

4. $7 + 28 \div 4 =$ 5. $6 + 72 \div 9 =$ 6. $4 + 28 \div 7 =$

7. $(3 + 8) \times 5 =$ 8. $(6 + 4) \times 8 =$ 9. $(9 + 2) \times 7 =$

10. $32 \div (4 + 4) =$ 11. $18 \div (7 + 2) =$

12. $54 \div (4 + 5) =$ 13. $48 \div (14 - 8) =$

14. $5 + 5 \times 8 =$ 15. $6 + 7 \times 8 =$ 16. $8 + 9 \times 6 =$

17. $4 + 6 \times 7 =$ 18. $3 + 4 \times 5 =$ 19. $64 - 4 \times 4 =$

20. $(19 + 13) - (14 + 15) =$

How long did you take? If this was your second go, did you beat your first time?

Did you get them all correct?

BODMAS

Here are some multi-part expressions. Complete the underlined part of the expression first then use the answer to that to complete the expression.

Here is an example: $3 \times (\underline{2 + 6})$
 $3 \times 8 = 24$

1. $7 \times (\underline{8 - 3})$

6. $21 \div (\underline{4 + 3})$

11. $9 \times (\underline{3 + 3})$

2. $7 + \underline{9 \times 2}$

7. $10 - \underline{9 \div 3}$

12. $2^3 - (\underline{3 + 1})$

3. $10 \div (\underline{6 - 4})$

8. $7 + \underline{6 \times 4}$

13. $(\underline{10 + 5}) \div 5$

4. $12 \div (\underline{7 - 4})$

9. $(\underline{12 + 20}) \div 4$

14. $12 \div (\underline{7 - 4})$

5. $(\underline{8 + 9}) + 6^2$

10. $(\underline{13 - 6}) \times 5$

15. $(\underline{11 - 3}) \times 7$

Decide which part of each expression to calculate first, underline and complete as above.

1. $(12 - 7) \times 8$

2. $9 + 2 \times 7$

3. $18 \div (8 - 2)$

BODMAS

1. $(12 + 8) \div 4 =$

6. $(21 - 9) \times 2 =$

11. $(8 + 13) \div 7 =$

2. $(5^2 + 10) \div 5 =$

7. $8 \times 3 + 6 =$

12. $25 - 11 \times 2 =$

3. $(8 + 9) + 6^2 =$

8. $3 \times (15 - 9) =$

13. $(7^2 + 11) \div 5 =$

4. $4 \times 6 - 14 =$

9. $6^3 - (35 + 12) =$

14. $9 \div (10 - 7) =$

5. $18 \div (4 + 5) =$

10. $(14 + 21) \div 5 =$

15. $26 - 3 \times 7 =$

Complete these calculations by filling in the missing number.

1. $4 \times \square - 25 = 23$

4. $(5 + 9) \div \square = 2$

7. $\square \div (7 - 2) = 3$

2. $(26 - 10) \div \square = 4$

5. $9 \times (12 - \square) = 63$

8. $8^2 + (66 - \square) = 86$

3. $60 = 5 \times (3 + \square)$

6. $45 = (5 + \square) \times 5$

9. $6 = \square \div (11 - 4)$

BODMAS

Calculate:

1. $(3 + 6) \times (8 - 5) =$

6. $8 \div (7 - 5) \times 6 =$

2. $7 + 8 \times 9 - 4 =$

7. $9 \times 3 + 18 \div 9 =$

3. $8 \times (6 + 3) + 5 =$

8. $(124 \div 2) \times 2^2 =$

4. $(19 - 7) + 8^2 + 9 =$

9. $23 - 3 \times (5 + 8) =$

5. $9 \times (5 + 6) + 4 =$

10. $8 + 7 \times (12 - 5) =$

Put brackets in the following to make the answers correct.

1. $6 \times 7 - 4 \times 8 = 10$

6. $8 \times 7 - 4 \div 6 = 4$

2. $8 \times 9 - 5 - 6 = 26$

7. $9 + 23 - 5 \times 5 = 7$

3. $24 - 17 \times 8 - 16 = 40$

8. $5 + 11 \div 7 - 3 = 4$

4. $14 + 6 \times 4 - 32 = 6$

9. $7 + 6 \times 12 - 7 = 37$

5. $9 \times 7 - 6 \times 3 = 27$

10. $15 + 9 \div 6 - 4 = 0$

Use all the following numbers to create an expression using order of operations: 3, 4, 6, 12

1	2	3		4	5	6		7	8
9				10				11	
		12	13			14	15		
16	17				18				
19			20	21			22	23	24
25		26		27		28		29	
		30	31			32	33		
34	35				36				
37			38	39			40	41	42
43			44				45		

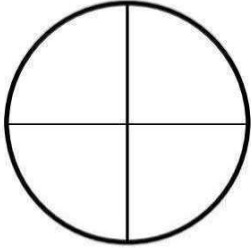
Across

1. $129 + 97 + 157 + 232$
4. 65×5
7. 6×9
9. $736 - 330$
10. 4×237
11. $76 - 24$
12. $95 + 245$
14. $1910 + 3515$
16. $3 \times 1549 - 789$
18. $194 + 66$
19. $140 - 45$
20. $411 - 153$
22. $778 - 326$
25. 172×4
27. $217 \times 2 - 79$
29. $46 - 12$
30. $9 \times 23 + 83$
32. $591 + 538 + 821$
34. $3617 + 2180 + 3605$
36. $427 \times 2 - 132$
37. 13×2
38. $252 - 92$
40. 56×16
43. $2 \times 23 - 6$
44. $329 \times 2 - 134$
45. $6 \times 61 + 102$

Down

1. $9 \times 6 + 10$
2. $3 + 7$
3. 35×161
4. $102 + 84 + 60 + 144$
5. 6×4
6. $9525 - 3669$
7. 138×4
8. 25×17
13. $18 \times 18 + 158$
15. $667 - 263$
16. $610 - 214$
17. $1599 - 741$
18. 15×19
21. $144 + 163 + 223$
23. $183 + 149 + 203$
24. $54 + 52 + 39 + 95$
26. $314 + 273 + 233$
28. $4 \times 166 - 152$
31. $9 \times 827 + 1772$
33. 422×22
34. $2 \times 311 + 302$
35. $10 \times 33 + 130$
36. 16×44
39. $15 + 10 + 9 + 28$
41. $122 - 26$
42. $107 - 39$

FRACTIONS

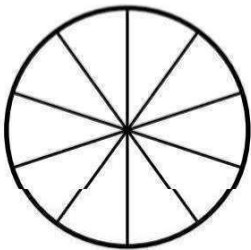


Color 1 part yellow. Color 2 parts green. Color 1 part purple.

What fraction of the circle is yellow? _____

What fraction of the circle is green? _____

What fraction of the circle is purple? _____

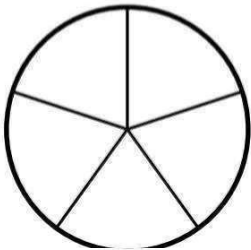


Color 2 parts green. Color 5 parts brown. Color 1 part yellow.

What fraction of the circle is green? _____

What fraction of the circle is brown? _____

What fraction of the circle is yellow? _____

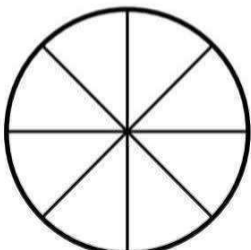


Color 3 parts purple. Color 1 part yellow. Color 1 part brown.

What fraction of the circle is purple? _____

What fraction of the circle is yellow? _____

What fraction of the circle is brown? _____



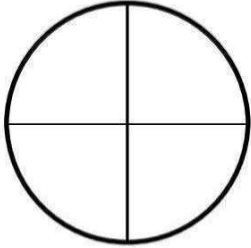
Color 3 parts brown. Color 1 part purple. Color 4 parts yellow.

What fraction of the circle is brown? _____

What fraction of the circle is purple? _____

What fraction of the circle is yellow? _____

Answer Key

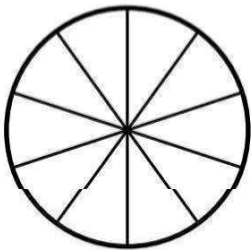


Color 1 part yellow. Color 2 parts green. Color 1 part purple.

What fraction of the circle is yellow? $\frac{1}{4}$

What fraction of the circle is green? $\frac{1}{2}$

What fraction of the circle is purple? $\frac{1}{4}$

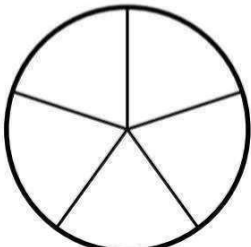


Color 2 parts green. Color 5 parts brown. Color 3 parts yellow.

What fraction of the circle is green? $\frac{1}{5}$

What fraction of the circle is brown? $\frac{1}{2}$

What fraction of the circle is yellow? $\frac{3}{10}$

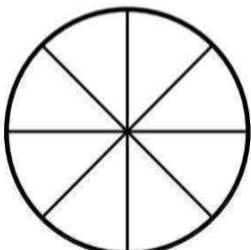


Color 3 parts purple. Color 1 part yellow. Color 1 part brown.

What fraction of the circle is purple? $\frac{3}{5}$

What fraction of the circle is yellow? $\frac{1}{5}$

What fraction of the circle is brown? $\frac{1}{5}$

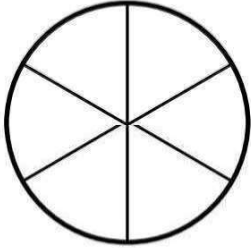


Color 3 parts brown. Color 1 part purple. Color 4 parts yellow.

What fraction of the circle is brown? $\frac{3}{8}$

What fraction of the circle is purple? $\frac{1}{8}$

What fraction of the circle is yellow? $\frac{1}{2}$

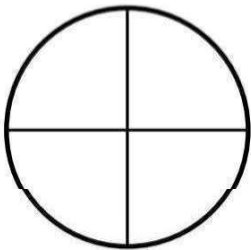


Color 1 part red. Color 3 parts green. Color 2 parts purple.

What fraction of the circle is red? _____

What fraction of the circle is green? _____

What fraction of the circle is purple? _____

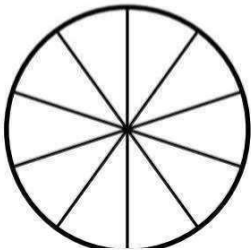


Color 1 part brown. Color 1 part yellow. Color 2 parts red.

What fraction of the circle is brown? _____

What fraction of the circle is yellow? _____

What fraction of the circle is red? _____

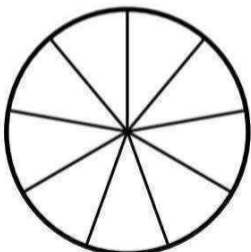


Color 5 parts green. Color 3 parts purple. Color 2 parts red.

What fraction of the circle is green? _____

What fraction of the circle is purple? _____

What fraction of the circle is red? _____

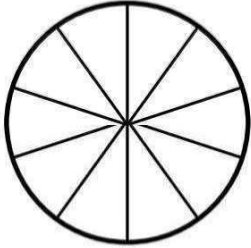


Color 4 parts red. Color 2 parts purple. Color 3 parts blue.

What fraction of the circle is red? _____

What fraction of the circle is purple? _____

What fraction of the circle is blue? _____

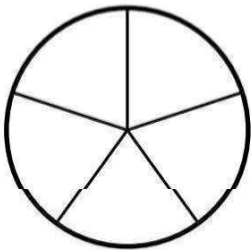


Color 1 part brown. Color 5 parts purple. Color 4 parts red.

What fraction of the circle is brown? _____

What fraction of the circle is purple? _____

What fraction of the circle is red? _____

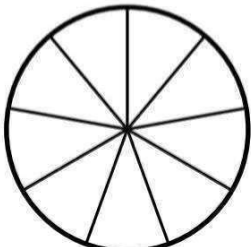


Color 1 part brown. Color 1 part purple. Color 3 parts orange.

What fraction of the circle is brown? _____

What fraction of the circle is purple? _____

What fraction of the circle is orange? _____

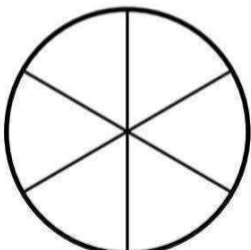


Color 2 parts brown. Color 4 parts red. Color 3 parts blue.

What fraction of the circle is brown? _____

What fraction of the circle is red? _____

What fraction of the circle is blue? _____

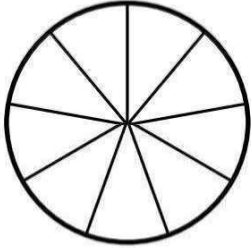


Color 1 part red. Color 3 parts blue. Color 2 parts green.

What fraction of the circle is red? _____

What fraction of the circle is blue? _____

What fraction of the circle is green? _____

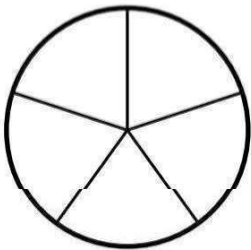


Color 4 parts orange. Color 2 parts red. Color 3 parts purple.

What fraction of the circle is orange? _____

What fraction of the circle is red? _____

What fraction of the circle is purple? _____

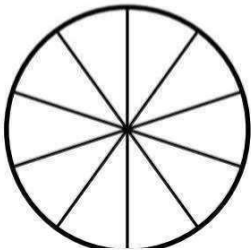


Color 3 parts orange. Color 1 part brown. Color 1 part green.

What fraction of the circle is orange? _____

What fraction of the circle is brown? _____

What fraction of the circle is green? _____

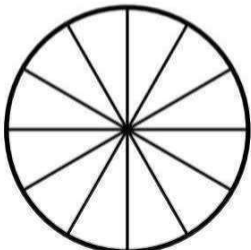


Color 5 parts yellow. Color 1 part blue. Color 4 parts purple.

What fraction of the circle is yellow? _____

What fraction of the circle is blue? _____

What fraction of the circle is purple? _____

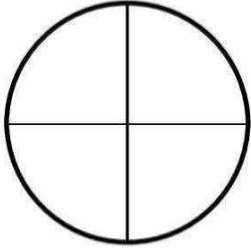


Color 1 part purple. Color 8 parts blue. Color 3 parts orange.

What fraction of the circle is purple? _____

What fraction of the circle is blue? _____

What fraction of the circle is orange? _____

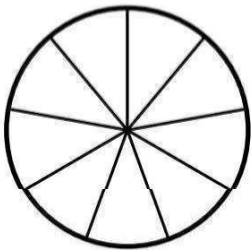


Color 1 part brown. Color 1 part green. Color 2 parts orange.

What fraction of the circle is brown? _____

What fraction of the circle is green? _____

What fraction of the circle is orange? _____

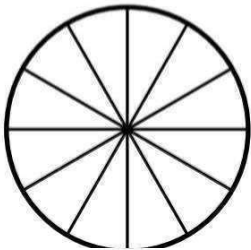


Color 3 parts yellow. Color 2 parts brown Color 4 parts blue.

What fraction of the circle is yellow? _____

What fraction of the circle is brown? _____

What fraction of the circle is blue? _____

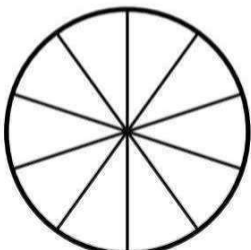


Color 4 parts brown. Color 2 parts red. Color 6 parts yellow.

What fraction of the circle is brown? _____

What fraction of the circle is red? _____

What fraction of the circle is yellow? _____



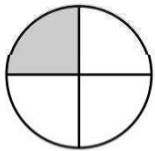
Color 2 parts red. Color 5 parts brown. Color 3 parts green.

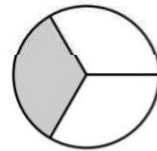
What fraction of the circle is red? _____

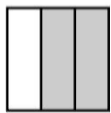
What fraction of the circle is brown? _____

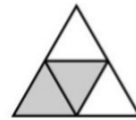
What fraction of the circle is green? _____

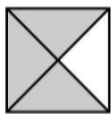
Write the fraction represented by the shaded area of each figure.

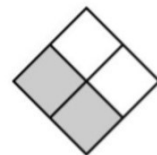


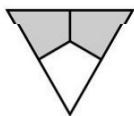






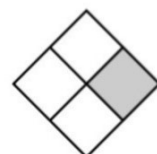






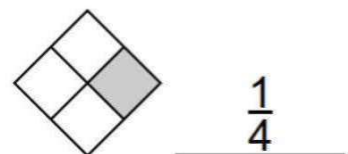
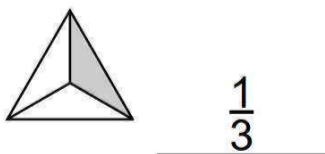
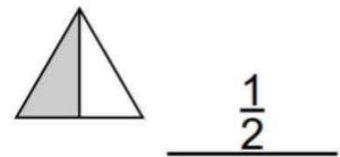
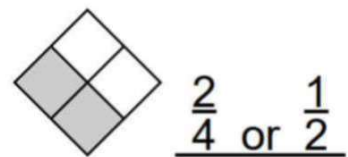
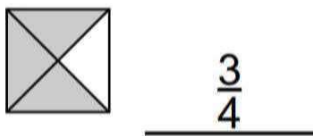
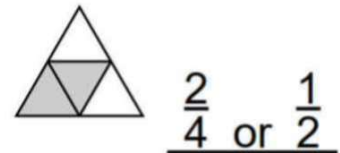
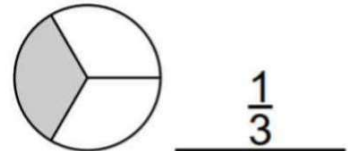
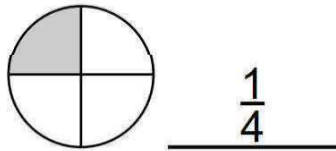






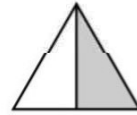
Answer Key

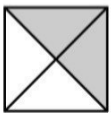
Write the fraction represented by the shaded area of each figure.

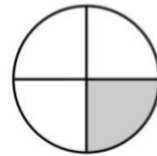


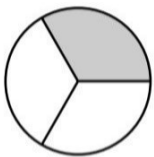
Write the fraction represented by the shaded area of each figure.



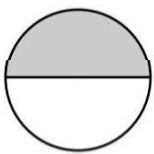


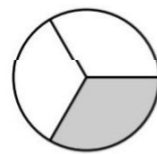


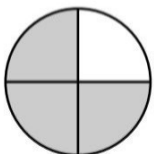


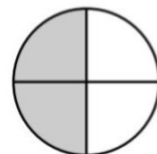




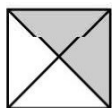


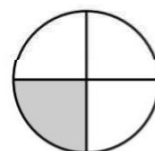






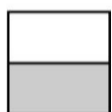
Write the fraction represented by the shaded area of each figure.

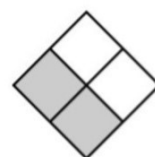


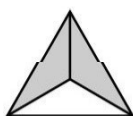


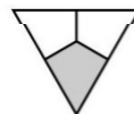


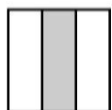






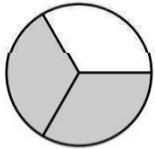




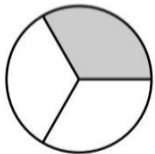


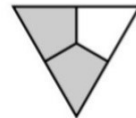


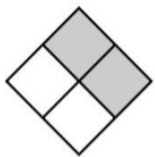
Write the fraction represented by the shaded area of each figure.

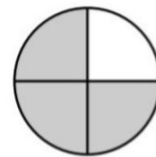


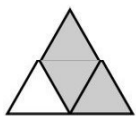


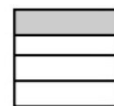


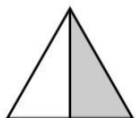


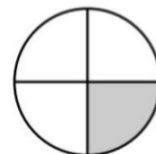




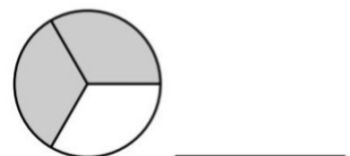
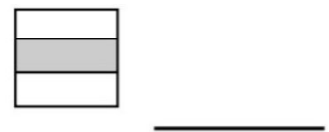
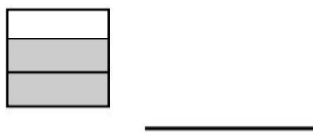
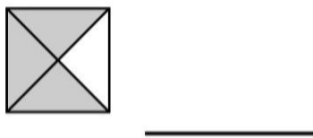
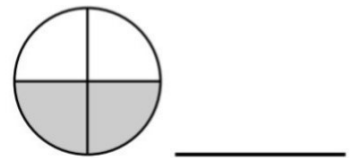
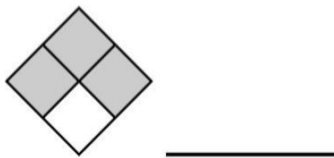
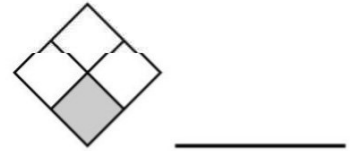
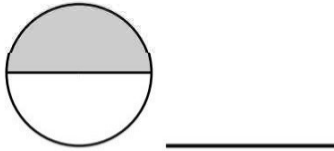


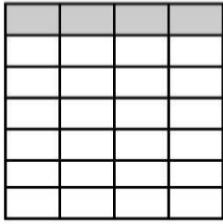




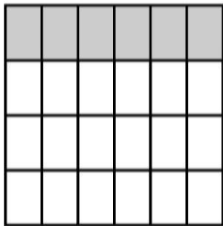


Write the fraction represented by the shaded area of each figure.

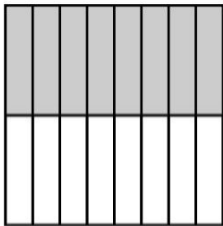




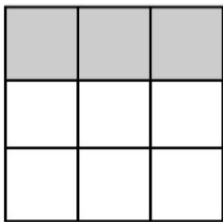
What is $\frac{1}{7}$ of 28? _____



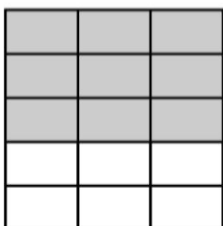
What is $\frac{1}{4}$ of 24? _____



What is $\frac{1}{2}$ of 16? _____

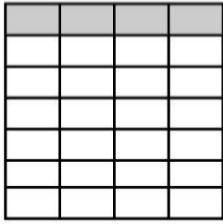


What is $\frac{1}{3}$ of 9? _____

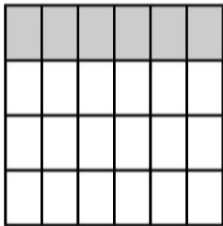


What is $\frac{3}{5}$ of 15? _____

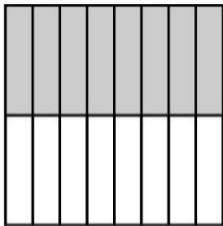
Answer Key



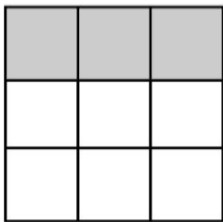
What is $\frac{1}{7}$ of 28? 4



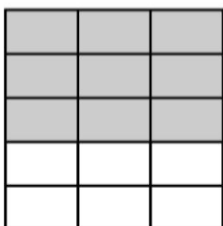
What is $\frac{1}{4}$ of 24? 6



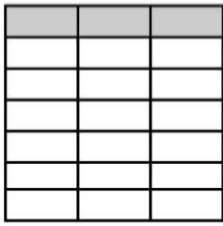
What is $\frac{1}{2}$ of 16? 8



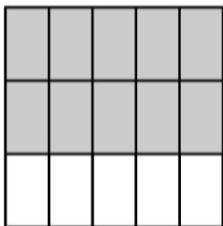
What is $\frac{1}{3}$ of 9? 3



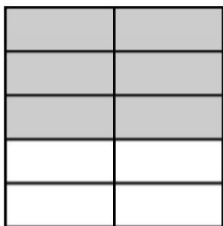
What is $\frac{3}{5}$ of 15? 9



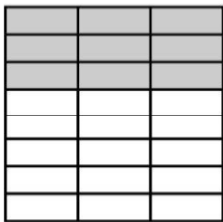
What is $\frac{1}{7}$ of 21? _____



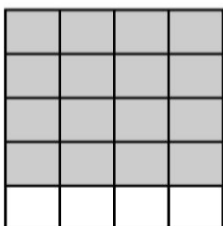
What is $\frac{2}{3}$ of 15? _____



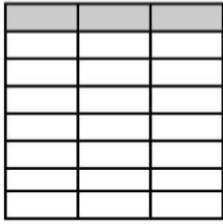
What is $\frac{3}{5}$ of 10? _____



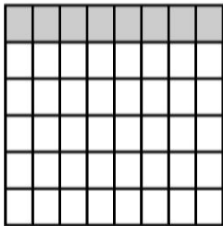
What is $\frac{3}{8}$ of 24? _____



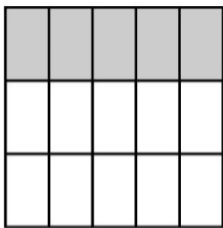
What is $\frac{4}{5}$ of 20? _____



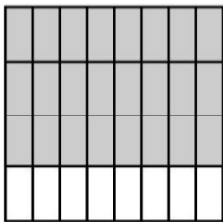
What is $\frac{1}{8}$ of 24? _____



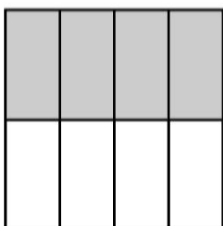
What is $\frac{1}{6}$ of 48? _____



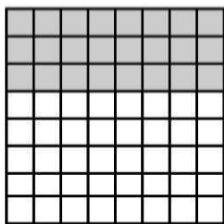
What is $\frac{1}{3}$ of 15? _____



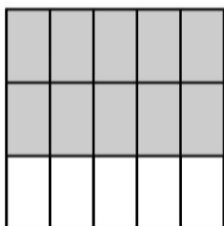
What is $\frac{3}{4}$ of 32? _____



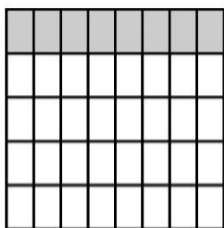
What is $\frac{1}{2}$ of 8? _____



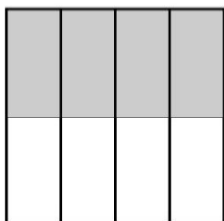
What is $\frac{3}{8}$ of 64? _____



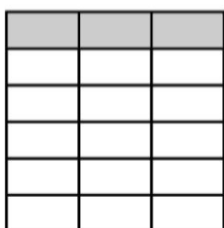
What is $\frac{2}{5}$ of 15? _____



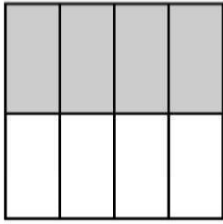
What is $\frac{1}{5}$ of 40? _____



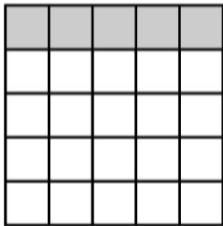
What is $\frac{1}{2}$ of 8? _____



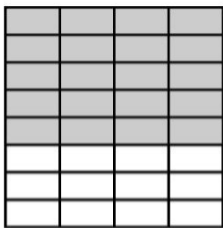
What is $\frac{1}{6}$ of 18? _____



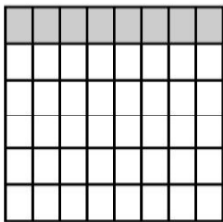
What is $\frac{1}{2}$ of 8? _____



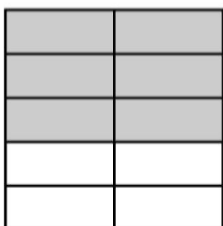
What is $\frac{1}{5}$ of 25? _____



What is $\frac{5}{8}$ of 32? _____



What is $\frac{1}{6}$ of 48? _____



What is $\frac{3}{5}$ of 10? _____

Convert each improper fraction to a mixed number.

$$\frac{41}{5} = \underline{\hspace{2cm}}$$

$$\frac{13}{2} = \underline{\hspace{2cm}}$$

$$\frac{32}{5} = \underline{\hspace{2cm}}$$

$$\frac{50}{7} = \underline{\hspace{2cm}}$$

$$\frac{42}{5} = \underline{\hspace{2cm}}$$

$$\frac{52}{5} = \underline{\hspace{2cm}}$$

$$\frac{34}{5} = \underline{\hspace{2cm}}$$

$$\frac{15}{2} = \underline{\hspace{2cm}}$$

$$\frac{54}{5} = \underline{\hspace{2cm}}$$

$$\frac{49}{5} = \underline{\hspace{2cm}}$$

$$\frac{64}{7} = \underline{\hspace{2cm}}$$

$$\frac{46}{5} = \underline{\hspace{2cm}}$$

$$\frac{16}{7} = \underline{\hspace{2cm}}$$

$$\frac{13}{4} = \underline{\hspace{2cm}}$$

$$\frac{53}{8} = \underline{\hspace{2cm}}$$

Answer Key

Convert each improper fraction to a mixed number.

$$\frac{41}{5} = \underline{8\frac{1}{5}}$$

$$\frac{13}{2} = \underline{6\frac{1}{2}}$$

$$\frac{32}{5} = \underline{6\frac{2}{5}}$$

$$\frac{50}{7} = \underline{7\frac{1}{7}}$$

$$\frac{42}{5} = \underline{8\frac{2}{5}}$$

$$\frac{52}{5} = \underline{10\frac{2}{5}}$$

$$\frac{34}{5} = \underline{6\frac{4}{5}}$$

$$\frac{15}{2} = \underline{7\frac{1}{2}}$$

$$\frac{54}{5} = \underline{10\frac{4}{5}}$$

$$\frac{49}{5} = \underline{9\frac{4}{5}}$$

$$\frac{64}{7} = \underline{9\frac{1}{7}}$$

$$\frac{46}{5} = \underline{9\frac{1}{5}}$$

$$\frac{16}{7} = \underline{2\frac{2}{7}}$$

$$\frac{13}{4} = \underline{3\frac{1}{4}}$$

$$\frac{53}{8} = \underline{6\frac{5}{8}}$$

Convert each improper fraction to a mixed number.

$$\frac{61}{8} = \underline{\hspace{2cm}}$$

$$\frac{41}{7} = \underline{\hspace{2cm}}$$

$$\frac{55}{6} = \underline{\hspace{2cm}}$$

$$\frac{19}{2} = \underline{\hspace{2cm}}$$

$$\frac{11}{3} = \underline{\hspace{2cm}}$$

$$\frac{10}{3} = \underline{\hspace{2cm}}$$

$$\frac{38}{7} = \underline{\hspace{2cm}}$$

$$\frac{31}{9} = \underline{\hspace{2cm}}$$

$$\frac{3}{2} = \underline{\hspace{2cm}}$$

$$\frac{17}{2} = \underline{\hspace{2cm}}$$

$$\frac{27}{5} = \underline{\hspace{2cm}}$$

$$\frac{7}{5} = \underline{\hspace{2cm}}$$

$$\frac{41}{10} = \underline{\hspace{2cm}}$$

$$\frac{29}{4} = \underline{\hspace{2cm}}$$

$$\frac{35}{4} = \underline{\hspace{2cm}}$$

Convert each improper fraction to a mixed number.

$$\frac{24}{5} = \underline{\hspace{2cm}}$$

$$\frac{9}{5} = \underline{\hspace{2cm}}$$

$$\frac{20}{3} = \underline{\hspace{2cm}}$$

$$\frac{31}{3} = \underline{\hspace{2cm}}$$

$$\frac{25}{4} = \underline{\hspace{2cm}}$$

$$\frac{64}{7} = \underline{\hspace{2cm}}$$

$$\frac{19}{4} = \underline{\hspace{2cm}}$$

$$\frac{92}{9} = \underline{\hspace{2cm}}$$

$$\frac{53}{6} = \underline{\hspace{2cm}}$$

$$\frac{69}{7} = \underline{\hspace{2cm}}$$

$$\frac{54}{7} = \underline{\hspace{2cm}}$$

$$\frac{14}{3} = \underline{\hspace{2cm}}$$

$$\frac{37}{9} = \underline{\hspace{2cm}}$$

$$\frac{81}{8} = \underline{\hspace{2cm}}$$

$$\frac{7}{3} = \underline{\hspace{2cm}}$$

Convert each improper fraction to a mixed number.

$$\frac{11}{2} = \underline{\hspace{2cm}}$$

$$\frac{17}{2} = \underline{\hspace{2cm}}$$

$$\frac{13}{2} = \underline{\hspace{2cm}}$$

$$\frac{3}{2} = \underline{\hspace{2cm}}$$

$$\frac{32}{5} = \underline{\hspace{2cm}}$$

$$\frac{47}{8} = \underline{\hspace{2cm}}$$

$$\frac{65}{9} = \underline{\hspace{2cm}}$$

$$\frac{45}{7} = \underline{\hspace{2cm}}$$

$$\frac{35}{8} = \underline{\hspace{2cm}}$$

$$\frac{21}{2} = \underline{\hspace{2cm}}$$

$$\frac{23}{3} = \underline{\hspace{2cm}}$$

$$\frac{15}{2} = \underline{\hspace{2cm}}$$

$$\frac{4}{3} = \underline{\hspace{2cm}}$$

$$\frac{44}{7} = \underline{\hspace{2cm}}$$

$$\frac{51}{10} = \underline{\hspace{2cm}}$$

Convert each improper fraction to a mixed number.

$$\frac{41}{6} = \underline{\hspace{2cm}}$$

$$\frac{7}{2} = \underline{\hspace{2cm}}$$

$$\frac{17}{4} = \underline{\hspace{2cm}}$$

$$\frac{37}{5} = \underline{\hspace{2cm}}$$

$$\frac{27}{4} = \underline{\hspace{2cm}}$$

$$\frac{8}{3} = \underline{\hspace{2cm}}$$

$$\frac{18}{7} = \underline{\hspace{2cm}}$$

$$\frac{11}{4} = \underline{\hspace{2cm}}$$

$$\frac{49}{6} = \underline{\hspace{2cm}}$$

$$\frac{16}{5} = \underline{\hspace{2cm}}$$

$$\frac{26}{3} = \underline{\hspace{2cm}}$$

$$\frac{43}{5} = \underline{\hspace{2cm}}$$

$$\frac{7}{3} = \underline{\hspace{2cm}}$$

$$\frac{61}{7} = \underline{\hspace{2cm}}$$

$$\frac{33}{10} = \underline{\hspace{2cm}}$$

Simplify each improper mixed number by converting to a proper mixed number.

$7\frac{33}{5} = \underline{\hspace{2cm}}$

$6\frac{41}{8} = \underline{\hspace{2cm}}$

$5\frac{11}{4} = \underline{\hspace{2cm}}$

$7\frac{23}{6} = \underline{\hspace{2cm}}$

$5\frac{8}{4} = \underline{\hspace{2cm}}$

$6\frac{10}{5} = \underline{\hspace{2cm}}$

$3\frac{77}{10} = \underline{\hspace{2cm}}$

$7\frac{34}{9} = \underline{\hspace{2cm}}$

$6\frac{5}{2} = \underline{\hspace{2cm}}$

$7\frac{21}{3} = \underline{\hspace{2cm}}$

$6\frac{43}{8} = \underline{\hspace{2cm}}$

$2\frac{32}{5} = \underline{\hspace{2cm}}$

$2\frac{17}{7} = \underline{\hspace{2cm}}$

$4\frac{71}{10} = \underline{\hspace{2cm}}$

$7\frac{12}{2} = \underline{\hspace{2cm}}$

$5\frac{65}{9} = \underline{\hspace{2cm}}$

$2\frac{29}{4} = \underline{\hspace{2cm}}$

$7\frac{20}{3} = \underline{\hspace{2cm}}$

$3\frac{42}{6} = \underline{\hspace{2cm}}$

$4\frac{16}{3} = \underline{\hspace{2cm}}$

Answer Key

Simplify each improper mixed number by converting to a proper mixed number.

$$7\frac{33}{5} = \underline{7 + 6\frac{3}{5} = 13\frac{3}{5}}$$

$$6\frac{41}{8} = \underline{6 + 5\frac{1}{8} = 11\frac{1}{8}}$$

$$5\frac{11}{4} = \underline{5 + 2\frac{3}{4} = 7\frac{3}{4}}$$

$$7\frac{23}{6} = \underline{7 + 3\frac{5}{6} = 10\frac{5}{6}}$$

$$5\frac{8}{4} = \underline{5 + 2 = 7}$$

$$6\frac{10}{5} = \underline{6 + 2 = 8}$$

$$3\frac{77}{10} = \underline{3 + 7\frac{7}{10} = 10\frac{7}{10}}$$

$$7\frac{34}{9} = \underline{7 + 3\frac{7}{9} = 10\frac{7}{9}}$$

$$6\frac{5}{2} = \underline{6 + 2\frac{1}{2} = 8\frac{1}{2}}$$

$$7\frac{21}{3} = \underline{7 + 7 = 14}$$

$$6\frac{43}{8} = \underline{6 + 5\frac{3}{8} = 11\frac{3}{8}}$$

$$2\frac{32}{5} = \underline{2 + 6\frac{2}{5} = 8\frac{2}{5}}$$

$$2\frac{17}{7} = \underline{2 + 2\frac{3}{7} = 4\frac{3}{7}}$$

$$4\frac{71}{10} = \underline{4 + 7\frac{1}{10} = 11\frac{1}{10}}$$

$$7\frac{12}{2} = \underline{7 + 6 = 13}$$

$$5\frac{65}{9} = \underline{5 + 7\frac{2}{9} = 12\frac{2}{9}}$$

$$2\frac{29}{4} = \underline{2 + 7\frac{1}{4} = 9\frac{1}{4}}$$

$$7\frac{20}{3} = \underline{7 + 6\frac{2}{3} = 13\frac{2}{3}}$$

$$3\frac{42}{6} = \underline{3 + 7 = 10}$$

$$4\frac{16}{3} = \underline{4 + 5\frac{1}{3} = 9\frac{1}{3}}$$

Simplify each improper mixed number by converting to a proper mixed number.

$$6\frac{23}{5} = \underline{\hspace{2cm}}$$

$$6\frac{51}{10} = \underline{\hspace{2cm}}$$

$$3\frac{19}{3} = \underline{\hspace{2cm}}$$

$$5\frac{55}{9} = \underline{\hspace{2cm}}$$

$$4\frac{7}{2} = \underline{\hspace{2cm}}$$

$$6\frac{37}{7} = \underline{\hspace{2cm}}$$

$$3\frac{61}{9} = \underline{\hspace{2cm}}$$

$$7\frac{11}{4} = \underline{\hspace{2cm}}$$

$$7\frac{24}{4} = \underline{\hspace{2cm}}$$

$$2\frac{28}{7} = \underline{\hspace{2cm}}$$

$$5\frac{4}{2} = \underline{\hspace{2cm}}$$

$$2\frac{30}{6} = \underline{\hspace{2cm}}$$

$$6\frac{49}{8} = \underline{\hspace{2cm}}$$

$$4\frac{34}{5} = \underline{\hspace{2cm}}$$

$$2\frac{29}{6} = \underline{\hspace{2cm}}$$

$$7\frac{15}{5} = \underline{\hspace{2cm}}$$

$$2\frac{21}{4} = \underline{\hspace{2cm}}$$

$$3\frac{27}{10} = \underline{\hspace{2cm}}$$

$$4\frac{11}{3} = \underline{\hspace{2cm}}$$

$$3\frac{25}{7} = \underline{\hspace{2cm}}$$

Simplify each improper mixed number by converting to a proper mixed number.

$$7\frac{11}{4} = \underline{\hspace{2cm}}$$

$$6\frac{73}{10} = \underline{\hspace{2cm}}$$

$$4\frac{18}{6} = \underline{\hspace{2cm}}$$

$$4\frac{29}{5} = \underline{\hspace{2cm}}$$

$$7\frac{7}{2} = \underline{\hspace{2cm}}$$

$$6\frac{25}{5} = \underline{\hspace{2cm}}$$

$$5\frac{39}{8} = \underline{\hspace{2cm}}$$

$$2\frac{47}{9} = \underline{\hspace{2cm}}$$

$$6\frac{33}{8} = \underline{\hspace{2cm}}$$

$$3\frac{47}{7} = \underline{\hspace{2cm}}$$

$$3\frac{6}{3} = \underline{\hspace{2cm}}$$

$$2\frac{23}{3} = \underline{\hspace{2cm}}$$

$$7\frac{17}{6} = \underline{\hspace{2cm}}$$

$$3\frac{12}{2} = \underline{\hspace{2cm}}$$

$$7\frac{16}{4} = \underline{\hspace{2cm}}$$

$$2\frac{25}{9} = \underline{\hspace{2cm}}$$

$$3\frac{36}{7} = \underline{\hspace{2cm}}$$

$$5\frac{29}{4} = \underline{\hspace{2cm}}$$

$$6\frac{10}{3} = \underline{\hspace{2cm}}$$

$$3\frac{14}{7} = \underline{\hspace{2cm}}$$

Simplify each improper mixed number by converting to a proper mixed number.

$$5\frac{27}{5} = \underline{\hspace{2cm}}$$

$$2\frac{47}{6} = \underline{\hspace{2cm}}$$

$$6\frac{5}{2} = \underline{\hspace{2cm}}$$

$$2\frac{7}{3} = \underline{\hspace{2cm}}$$

$$3\frac{33}{10} = \underline{\hspace{2cm}}$$

$$5\frac{45}{8} = \underline{\hspace{2cm}}$$

$$3\frac{8}{4} = \underline{\hspace{2cm}}$$

$$4\frac{23}{8} = \underline{\hspace{2cm}}$$

$$3\frac{47}{10} = \underline{\hspace{2cm}}$$

$$2\frac{10}{5} = \underline{\hspace{2cm}}$$

$$3\frac{21}{4} = \underline{\hspace{2cm}}$$

$$4\frac{12}{6} = \underline{\hspace{2cm}}$$

$$2\frac{23}{3} = \underline{\hspace{2cm}}$$

$$3\frac{15}{4} = \underline{\hspace{2cm}}$$

$$4\frac{10}{2} = \underline{\hspace{2cm}}$$

$$3\frac{20}{7} = \underline{\hspace{2cm}}$$

$$6\frac{40}{9} = \underline{\hspace{2cm}}$$

$$4\frac{31}{7} = \underline{\hspace{2cm}}$$

$$3\frac{18}{3} = \underline{\hspace{2cm}}$$

$$4\frac{42}{7} = \underline{\hspace{2cm}}$$

Simplify each improper mixed number by converting to a proper mixed number.

$$3\frac{20}{3} = \underline{\hspace{2cm}}$$

$$5\frac{20}{9} = \underline{\hspace{2cm}}$$

$$7\frac{47}{10} = \underline{\hspace{2cm}}$$

$$4\frac{64}{9} = \underline{\hspace{2cm}}$$

$$7\frac{14}{5} = \underline{\hspace{2cm}}$$

$$6\frac{12}{3} = \underline{\hspace{2cm}}$$

$$5\frac{31}{6} = \underline{\hspace{2cm}}$$

$$7\frac{55}{8} = \underline{\hspace{2cm}}$$

$$6\frac{23}{4} = \underline{\hspace{2cm}}$$

$$5\frac{18}{6} = \underline{\hspace{2cm}}$$

$$5\frac{16}{5} = \underline{\hspace{2cm}}$$

$$2\frac{57}{8} = \underline{\hspace{2cm}}$$

$$7\frac{4}{2} = \underline{\hspace{2cm}}$$

$$7\frac{28}{7} = \underline{\hspace{2cm}}$$

$$2\frac{30}{5} = \underline{\hspace{2cm}}$$

$$4\frac{24}{4} = \underline{\hspace{2cm}}$$

$$2\frac{22}{3} = \underline{\hspace{2cm}}$$

$$5\frac{37}{7} = \underline{\hspace{2cm}}$$

$$3\frac{15}{2} = \underline{\hspace{2cm}}$$

$$7\frac{73}{10} = \underline{\hspace{2cm}}$$

3 Digits

058

087

108

115

116

128

162

221

234

235

243

260

265

272

282

303

310

324

330

332

344

350

441

461

465

473

505

507

516

534

562

581

585

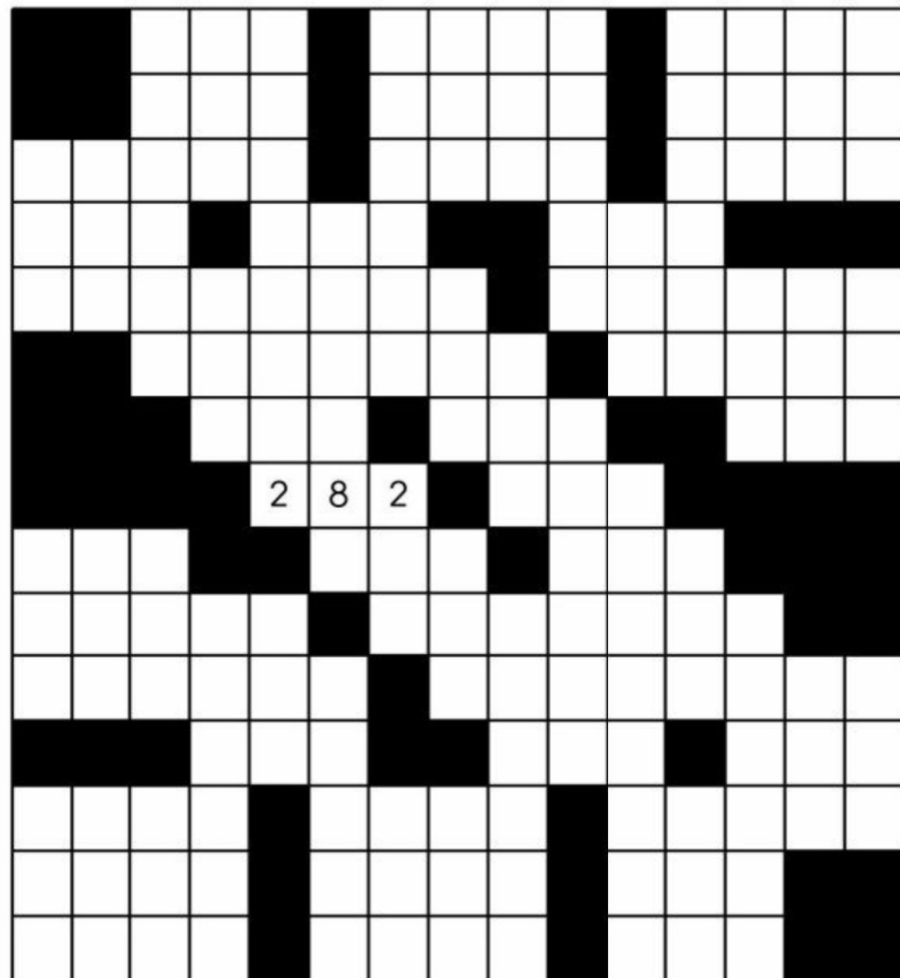
622

638

644

673

708



715

735

770

785

827

828

855

857

858

866

4 Digits

1510

1517

2023

2354

3426

3862

5018

6335

7362

8007

8425

8660

5 Digits

18838

24404

26665

28583

58385

87226

6 Digits

138582

306455

365483

413272

513414

618556

635428

811065

856423

857501

7 Digits

1485583

2455410

8 Digits

11875072

38558542

52578221

66728617

BASIC ALGEBRA

Solve for x.

$$3 \times x = 27$$

$$x - 25 = 39$$

$$x - 16 = 31$$

$$x + 30 = 57$$

$$x \div 9 = 7$$

$$9 \times x = 27$$

$$x \div 6 = 7$$

$$11 + x = 46$$

$$x \times 5 = 60$$

$$36 + x = 58$$

$$x + 36 = 45$$

$$x - 27 = 39$$

Answer Key

Solve for x.

$$3 \times x = 27$$

$$x = 27 \div 3$$

$$x = 9$$

$$x - 25 = 39$$

$$x = 39 + 25$$

$$x = 64$$

$$x - 16 = 31$$

$$x = 31 + 16$$

$$x = 47$$

$$x + 30 = 57$$

$$x = 57 - 30$$

$$x = 27$$

$$x \div 9 = 7$$

$$x = 7 \times 9$$

$$x = 63$$

$$9 \times x = 27$$

$$x = 27 \div 9$$

$$x = 3$$

$$x \div 6 = 7$$

$$x = 7 \times 6$$

$$x = 42$$

$$11 + x = 46$$

$$x = 46 - 11$$

$$x = 35$$

$$x \times 5 = 60$$

$$x = 60 \div 5$$

$$x = 12$$

$$36 + x = 58$$

$$x = 58 - 36$$

$$x = 22$$

$$x + 36 = 45$$

$$x = 45 - 36$$

$$x = 9$$

$$x - 27 = 39$$

$$x = 39 + 27$$

$$x = 66$$

Solve for x.

$$18 + x = 30$$

$$x \times 7 = 42$$

$$x \div 8 = 7$$

$$x \div 4 = 3$$

$$x \div 6 = 5$$

$$x \div 9 = 4$$

$$x - 13 = 37$$

$$4 \times x = 28$$

$$x - 12 = 34$$

$$x \times 3 = 21$$

$$x - 13 = 36$$

$$x \div 8 = 4$$

Solve for x.

$$27 + x = 60$$

$$x + 28 = 64$$

$$x + 23 = 44$$

$$x - 31 = 37$$

$$x \div 3 = 7$$

$$x - 8 = 37$$

$$x \div 3 = 8$$

$$x - 21 = 39$$

$$x \div 6 = 8$$

$$x \div 7 = 3$$

$$x + 29 = 43$$

$$x - 32 = 35$$

Solve for x.

$$x - 19 = 32$$

$$x - 25 = 39$$

$$x - 14 = 38$$

$$25 + x = 55$$

$$x \div 12 = 9$$

$$x - 20 = 32$$

$$x \div 6 = 6$$

$$36 + x = 64$$

$$x \times 6 = 42$$

$$x \div 5 = 8$$

$$x - 25 = 37$$

$$x \div 6 = 5$$

Solve for x.

$$x \times 9 = 81$$

$$32 + x = 50$$

$$x + 11 = 18$$

$$x - 29 = 32$$

$$x + 5 = 37$$

$$x - 3 = 33$$

$$9 \times x = 27$$

$$8 \times x = 96$$

$$x - 9 = 34$$

$$x - 17 = 38$$

$$x - 32 = 38$$

$$x \div 4 = 4$$

Solve for x.

$$x \div 4 + 17 = 22$$

$$x \div 5 + 14 = 23$$

$$x \div 11 - 5 = 3$$

$$x \div 5 + 5 = 16$$

$$4x - 9 = 11$$

$$5x - 10 = 65$$

$$x \div 4 + 10 = 12$$

$$4x - 1 = 47$$

$$x \div 7 + 8 = 11$$

$$4x + 11 = 39$$

Answer Key

Solve for x.

$x \div 4 + 17 = 22$	$x \div 5 + 14 = 23$
$x \div 4 = 22 - 17$	$x \div 5 = 23 - 14$
$x = 5 \times 4$	$x = 9 \times 5$
$x = 20$	$x = 45$

$x \div 11 - 5 = 3$	$x \div 5 + 5 = 16$
$x \div 11 = 3 + 5$	$x \div 5 = 16 - 5$
$x = 8 \times 11$	$x = 11 \times 5$
$x = 88$	$x = 55$

$4x - 9 = 11$	$5x - 10 = 65$
$4x = 11 + 9$	$5x = 65 + 10$
$x = 20 \div 4$	$x = 75 \div 5$
$x = 5$	$x = 15$

$x \div 4 + 10 = 12$	$4x - 1 = 47$
$x \div 4 = 12 - 10$	$4x = 47 + 1$
$x = 2 \times 4$	$x = 48 \div 4$
$x = 8$	$x = 12$

$x \div 7 + 8 = 11$	$4x + 11 = 39$
$x \div 7 = 11 - 8$	$4x = 39 - 11$
$x = 3 \times 7$	$x = 28 \div 4$
$x = 21$	$x = 7$

Solve for x.

$$2x + 14 = 32$$

$$2x - 18 = 12$$

$$x \div 4 - 1 = 7$$

$$x \div 5 + 18 = 28$$

$$x \div 10 - 2 = 7$$

$$x \div 7 - 3 = 6$$

$$x \div 10 + 13 = 21$$

$$4x + 15 = 87$$

$$5x - 5 = 30$$

$$3x - 2 = 46$$

Solve for x.

$$x \div 10 + 13 = 24$$

$$3x + 8 = 17$$

$$4x - 2 = 34$$

$$2x - 2 = 22$$

$$x \div 9 + 17 = 27$$

$$x \div 9 + 5 = 7$$

$$5x - 1 = 49$$

$$3x + 9 = 66$$

$$x \div 4 + 15 = 19$$

$$x \div 3 + 6 = 8$$

Solve for x.

$$x \div 9 + 5 = 10$$

$$8x - 20 = 84$$

$$7x - 7 = 21$$

$$x \div 2 - 7 = 3$$

$$x \div 7 - 2 = 4$$

$$2x + 18 = 46$$

$$x \div 2 - 2 = 3$$

$$x \div 11 + 3 = 10$$

$$5x - 9 = 71$$

$$4x + 11 = 23$$

Solve for x.

$$2x + 4 = 8$$

$$x \div 7 + 8 = 10$$

$$4x + 6 = 34$$

$$9x - 3 = 96$$

$$x \div 4 + 17 = 28$$

$$6x - 6 = 72$$

$$2x - 11 = 27$$

$$4x + 4 = 40$$

$$5x + 6 = 11$$

$$3x - 13 = 38$$

Multiply

$4(4x + 6) =$

$6(6x + 4) =$

$3(8x + 4) =$

$3(7x + 5) =$

$9(4x + 9) =$

$9(5x + 8) =$

$7(2x + 7) =$

$3(4x + 3) =$

$9(3x + 9) =$

$7(6x + 5) =$

$8(3x + 7) =$

$9(2x + 6) =$

$9(8x + 2) =$

$3(9x + 7) =$

$5(3x + 9) =$

$6(5x + 9) =$

$9(7x + 4) =$

$3(4x + 7) =$

$9(2x + 4) =$

$8(4x + 8) =$

Answer Key

Multiply

$$4(4x + 6) = 16x + 24$$

$$6(6x + 4) = 36x + 24$$

$$3(8x + 4) = 24x + 12$$

$$3(7x + 5) = 21x + 15$$

$$9(4x + 9) = 36x + 81$$

$$9(5x + 8) = 45x + 72$$

$$7(2x + 7) = 14x + 49$$

$$3(4x + 3) = 12x + 9$$

$$9(3x + 9) = 27x + 81$$

$$7(6x + 5) = 42x + 35$$

$$8(3x + 7) = 24x + 56$$

$$9(2x + 6) = 18x + 54$$

$$9(8x + 2) = 72x + 18$$

$$3(9x + 7) = 27x + 21$$

$$5(3x + 9) = 15x + 45$$

$$6(5x + 9) = 30x + 54$$

$$9(7x + 4) = 63x + 36$$

$$3(4x + 7) = 12x + 21$$

$$9(2x + 4) = 18x + 36$$

$$8(4x + 8) = 32x + 64$$

Multiply

$$4(3x + 2) =$$

$$7(6x + 4) =$$

$$2(6x + 5) =$$

$$9(3x + 7) =$$

$$5(3x + 7) =$$

$$6(5x + 2) =$$

$$6(8x + 4) =$$

$$4(7x + 5) =$$

$$5(8x + 9) =$$

$$5(8x + 5) =$$

$$5(6x + 2) =$$

$$8(6x + 4) =$$

$$6(4x + 5) =$$

$$4(2x + 5) =$$

$$6(7x + 6) =$$

$$9(2x + 8) =$$

$$5(2x + 6) =$$

$$3(5x + 8) =$$

$$6(7x + 2) =$$

$$5(2x + 5) =$$

Multiply

$$8(7x + 6) =$$

$$5(4x + 5) =$$

$$8(8x + 6) =$$

$$6(9x + 5) =$$

$$9(6x + 3) =$$

$$6(2x + 8) =$$

$$2(9x + 4) =$$

$$7(3x + 4) =$$

$$5(3x + 2) =$$

$$4(3x + 5) =$$

$$7(9x + 6) =$$

$$5(6x + 2) =$$

$$7(9x + 6) =$$

$$9(7x + 8) =$$

$$9(4x + 5) =$$

$$8(6x + 8) =$$

$$7(4x + 8) =$$

$$6(2x + 7) =$$

$$3(8x + 7) =$$

$$7(3x + 2) =$$

Multiply

$5(9x + 3) =$

$2(4x + 3) =$

$3(3x + 4) =$

$7(9x + 5) =$

$3(2x + 4) =$

$4(3x + 7) =$

$3(7x + 5) =$

$4(5x + 9) =$

$8(3x + 6) =$

$4(5x + 8) =$

$6(8x + 4) =$

$7(5x + 7) =$

$3(2x + 3) =$

$3(4x + 2) =$

$7(9x + 3) =$

$3(5x + 7) =$

$7(8x + 2) =$

$3(7x + 6) =$

$5(3x + 2) =$

$5(7x + 8) =$

Multiply

$7(7x + 2) =$

$8(7x + 8) =$

$7(4x + 8) =$

$2(3x + 7) =$

$5(3x + 9) =$

$3(3x + 7) =$

$3(6x + 3) =$

$9(4x + 2) =$

$3(5x + 2) =$

$7(4x + 9) =$

$5(9x + 2) =$

$9(2x + 9) =$

$9(8x + 6) =$

$2(6x + 2) =$

$9(5x + 9) =$

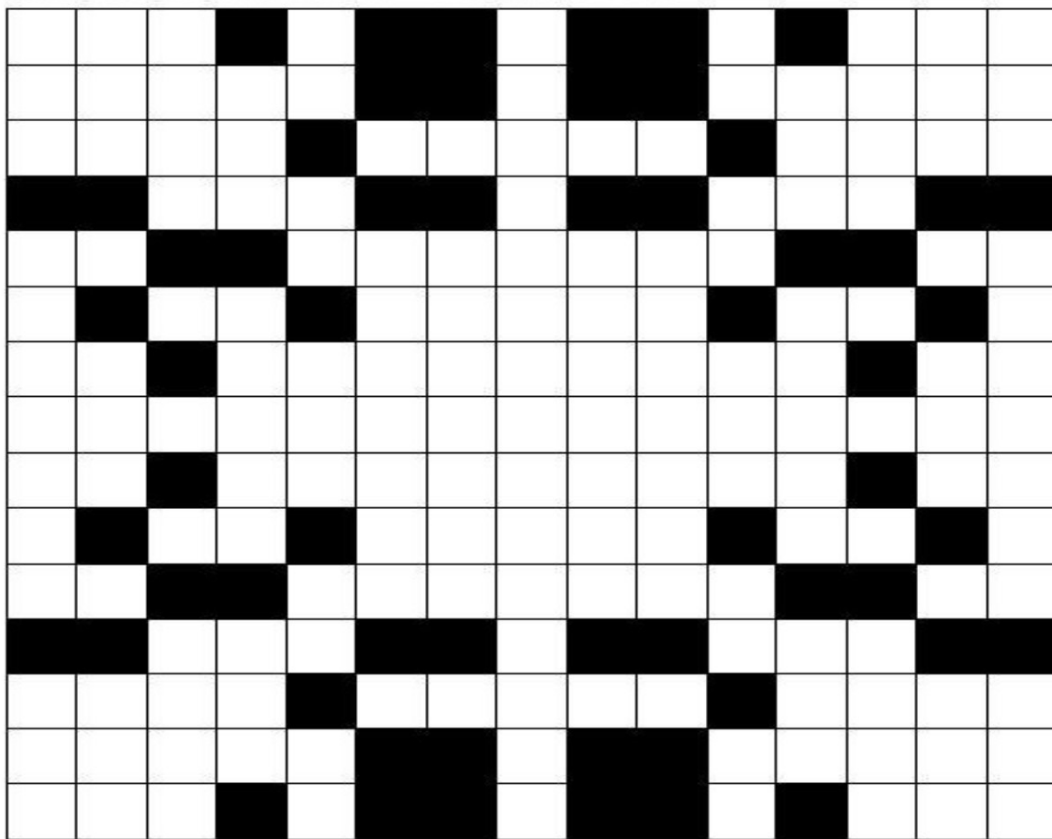
$4(4x + 3) =$

$7(6x + 9) =$

$4(9x + 6) =$

$7(6x + 8) =$

$2(8x + 2) =$



2 Digits	78	511	4552	6518360
01	96	607	7763	6957037
03	98	610	8540	7150423
09		648		7288416
09	3 Digits	662	5 Digits	7671579
11	003	707	11723	9038466
32	011	717	21264	9686416
37	016	743	38410	
37	047	819	44761	9 Digits
40	078	979	51962	573427496
43	088	991	57523	971576894
48	130		62021	
54	160	4 Digits	69151	15 Digits
57	168	0167	83136	321319762081534
61	206	0879	89777	744108065877046
66	279	0981		
68	393	1293	7 Digits	
73	445	3927	5665724	

RATIO & PROPORTION

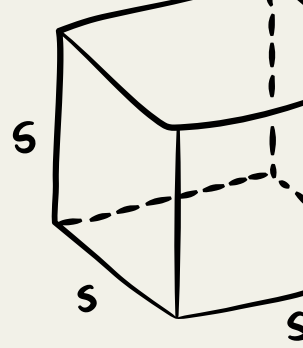
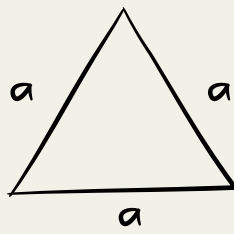
1. Simplify the ratio 42 : 63.	
2. Ahmed gets 20% more marks than Ali. Find the ratio of their marks.	
3. Divide 490 in the ratio 4 : 3.	
4. A man distributes his savings of 4000 among his three sons, in the ratio 4 : 3 : 3. Find the amount received by his first son.	
5. If the ratio $a : b = 2 : 3$, and $b : c = 3 : 4$. Find the ratio of $a : c$.	
6. There are two numbers. Five times the first, and four times the second are equal. Find the ratio of the two numbers. (a) 5 : 4 (b) 4 : 5	
7. Find the fourth proportion of 4, 9 & 12 (a) 18 (b) 36 (c) 72 (d) 27 (e) 24	
8. Find the third proportion of 16 and 36 (a) 81 (b) 144 (c) 196 (d) 64 (e) 100	
9. The ratio of two positive numbers is 4 : 7.. If the difference of the numbers is 15, find the larger number. (a) 25 (b) 30 (c) 20 (d) 35	
10. Sub-duplicate ratio of 9 : 16 (a) 81 : 256 (b) 27 : 64 (c) 9 : 16 (d) 3 : 4	
11. The mean proportion of 16 and 9 is	

12. Find the duplicate ratio of 4 : 5.	
13. The total number of male and female employees in a company is 60. Which of the following represent the ratio of male and female employees in the company? (a) 1 : 4 (b) 4 : 3 (c) 1 : 6 (d) 5 : 3	
14. The LCM of two numbers is 160, and their ratio is 4 : 5. Find the larger of the two numbers. (a) 40 (b) 45 (c) 20 (d) 15	
15. If $a/2 = b/3 = c/4$. Find the ratio a : b : c.	
16. $x/4 = y/3$. Find the ratio (x + 4) : (y + 3).	
17. In a class 20% of the boys is equal to 1/4th of the girls. What is the ratio of the boys and girls in the class?	
18. Find the compound ratio of 2 : 3 and 5 : 4.	
19. The sum of five times the first number and two times the second number is equal to twice the difference of thrice of the first number and twice the second. Find the ratio of the two numbers. (a) 1 : 6 (b) 6 : 1 (c) 2 : 1 (d) 3 : 4	
20. If 60 men do a piece of work in 27 days, then in how many days can 18 men do the same work? (a) 120 days (b) 90 days (c) 100 days (d) 60 days	

NOTES

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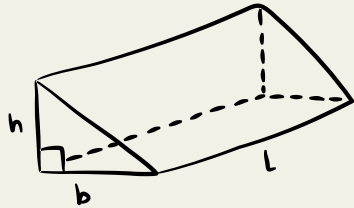
$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$



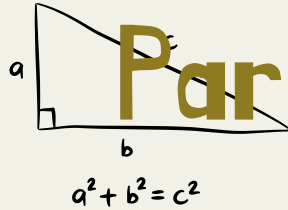
BASIC MATHS

$$\frac{x}{a} + \frac{y}{b} = 1$$

$$V = s^3$$

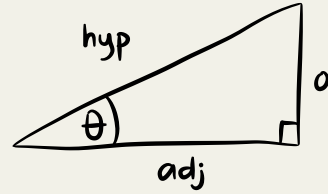


$$V = \frac{1}{2} bhl$$



Part 6 $S = \frac{d}{t}$

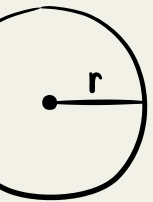
$$a^2 + b^2 = c^2$$



$$\sin(\theta) = \frac{\text{opp}}{\text{hyp}}$$

$$y = mx + b$$

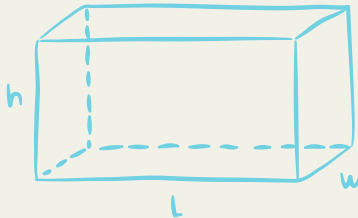
$=$



$$A = \pi r^2$$

$$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

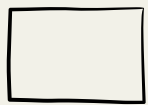
\neq



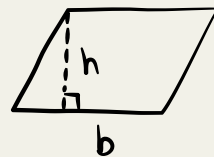
$$V = Lwh$$

$$a = \frac{V_f - V_i}{t}$$

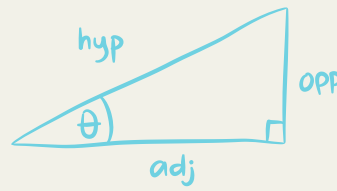
$$ax^2 + bx + c = 0$$



$$A = bh$$



$$A = bh$$



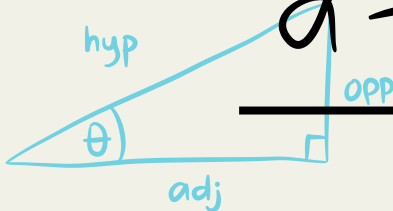
$$\cos(\theta) = \frac{\text{adj}}{\text{hyp}}$$

$$S = \frac{d}{t}$$

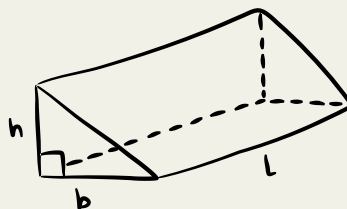
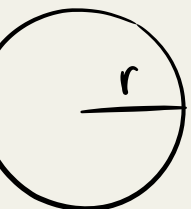
$$y = mx + b$$

$$a + (b + c) = (a + b) + c$$

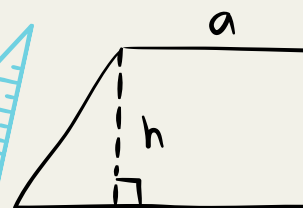
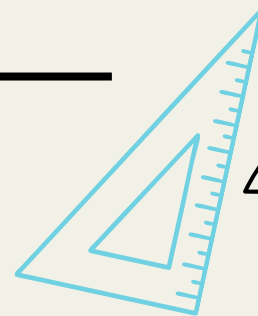
$$a + 0 = a$$



$$\tan(\theta) = \frac{\text{opp}}{\text{adj}}$$



$$V = \frac{1}{2} bhl$$



$$A = \frac{a+b}{2} h$$