Practice problems for Pre-Algebra

Please do your work on another page. This will help you organize your work and get the correct answer.

Fractions: Addition & Subtraction

1) $\frac{1}{3} + \frac{1}{3} =$

2) $\frac{4}{5} - \frac{1}{5} =$

3) $\frac{2}{7} + \frac{3}{7} =$

4) $\frac{3}{10} + \frac{1}{10} =$

5) $\frac{7}{20} - \frac{3}{20} =$

6) $\frac{11}{15} - \frac{2}{15} =$

7) $\frac{1}{5} + \frac{3}{10} =$

8) $\frac{1}{2} - \frac{1}{8} =$

9) $\frac{1}{3} + \frac{3}{5} =$

10) $\frac{5}{6} - \frac{4}{7} =$

11) $\frac{4}{15} + \frac{7}{10} =$

12) $\frac{7}{9} - \frac{1}{6} =$

13) $\frac{5}{6} - \frac{5}{8} =$

14) $\frac{2}{3} + \frac{7}{9} =$

15) $\frac{7}{12} + \frac{13}{18} =$

16) $2\frac{1}{8} + 3\frac{3}{8} =$

17) $4\frac{4}{5} - 3\frac{1}{5} =$

18) $3\frac{5}{8} + 1\frac{1}{8} =$

19) $3\frac{1}{2} - 1\frac{5}{8} =$

20) $6\frac{3}{10} + 7\frac{13}{15} =$

Fractions: Multiplication & Division

1) $\frac{1}{5} * \frac{1}{2} =$

2) $\left(\frac{3}{8}\right)\left(\frac{3}{5}\right) =$

3) $\frac{1}{2} \div \frac{7}{9} =$

4) $\frac{3}{4} \div 7 =$

5) $\frac{7}{10} * \frac{5}{14} =$

6) $\left(\frac{6}{7}\right)\left(\frac{35}{36}\right) =$

7) $\frac{4}{9} \div \frac{32}{27} =$

8) $1\frac{3}{4} * 2\frac{2}{7} =$

9) $2\frac{2}{5} \div 1\frac{3}{10} =$

10) $6\frac{1}{2} * 2\frac{2}{13} =$

Practice problems for Pre-Algebra

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Signed Numbers:

Addition and Subtraction

1) (-3) + (-8) =

2) 6 +(-3) =

3) 1 +(-6) =

4) 0 – (-9) =

5) 4 + (-9) =

6) 4 - 9 =

7) 5 + (-4) =

8) (-2) + (-2) =

9) 10 – (-3) =

10) (-8) + (-7) =

11) (-7) + 7 =

12) (-7) - 3 =

13) -11 – (-6) =

14) (-6) + (-5) =

15) (-13) + (-7) =

16) 16 – (-15) =

17) (-8) + 8 =

18) (-4) – (-4) =

19) 5 - 6 =

20) 6 + (-5) =

Signed Numbers:

Multiplication and Division

1) 5 * 3 =

2) (-5)(3) =

3) (-5)(-3) =

4) 5 * (-3) =

5) $8 \div (-2) =$

6) $(-8) \div (-2)$

7) $(-2) \div (10)$

8) $(-1) * (-6)$

9) $(15) \div (-1)$

Order of Operations

1) 30 – 4 x 5 =

2) 2 x 5 + 5 =

3) 21 – 3 x 6 =

4) (-3) x 3 – 2 =

Practice problems for Pre-Algebra

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5) $10 + 40 \div 5 \cdot 2 =$

6) $18 - 4^2 + 3 =$

7) $13 - (9)(5) =$

8) $4(7 - (-1)) =$

9) $60 - 7^2 + 2 =$

10) $12 + (3 \times 4) \div 12 =$

11) $4 \times 2^2 + 10 =$

12) $10 - 10^0 =$

13) $(325 + 6) \times (3 - 3) =$

14) $4 \times 5 \div 4 =$

15) $8(3 + 2) + (2 - 5)^2$

16) $[(5 + 1) + 8(3)^2] \div 6$

17) $\dfrac{6(2^3 + 1) + 2}{8 - 3^2} =$

18) $\dfrac{2(8^2 - 4) + 8}{29 - 3^3} =$

Distributive Property:

1) $5(y + 1) =$

2) $10(2x + 1) =$

3) $3(7x + 3) =$

4) $5(x + y) =$

5) $3(x^2 + 2x + 1) =$

6) $2(3x^2 + 5x + 2) =$

7) $3x(4x + 5y + 2) =$

8) $2x(3 - 4x) =$

9) $-2(3x - 4) =$

10) $-3(-2x + (-5)) =$

Combining Like Terms

1) $3x^2 + 2x + 4x^2 + 5x + 7$

2) $2x^3 + y^3 + 3xy + 7xy$

3) $3xy^2 + 2y^2 + x^2y + 4xy^2$

4) $(5x^3 + 2x^2 + 2x) - (x^3 + 4x^2 + 3x)$

5) $(3w^4 - 5w^2) - (7w^2 + 6w^4)$

6) $7(y^2 - 5y + 4) + 9y^2 + y - 3$

Solve the Equation:

1) $7x = 21$

2) $-4x = 28$

3) $5x + 2 = 12$

4) $10x - 3 = -33$

Practice problems for Pre-Algebra

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5) 4x + 23 = 23

6) 2y + 1 = -35

7) 6(x − 4) = 30

8) $-2(w + 5) = 40$

9) $3(x + 7) - 2x = 11$

10) $14 - 4(x - 3) = 20 + 8x$

Square roots

1) $\sqrt{9} =$

2) $\sqrt{49} =$

3) $\sqrt{18} =$

4) $\sqrt{50} =$

5) $\sqrt{4^2} =$

6) $\sqrt{1} =$

Ratio, Proportions, Averages and Percentages

Solve for y:

1) $\dfrac{5}{y} = \dfrac{2}{3}$

Solve for x:

2) $\dfrac{3}{4} = \dfrac{6}{x}$

3) The ratio of dogs to cats in a park is 1 to 4. If there are 3 dogs then how many cats are there?

4) The ratio of boys to girls in a class room is 5 to 16. If there are 10 boys then how many girls are there?

5) Find Mean, Mode, Median given:
    12, 15, 12, 13, 14

6) Suppose Kirk has taken three tests and made 88%, 90%, and 84%. Kirk's teacher tells the class that each test counts the same amount. Kirk wants to know what he needs to make on the fourth test to have an overall average of 90% so he can make an A in the class.

7) What is 35% of 80?

8) 25% of what number is 4?

9) An item originally priced at $55 is marked 25% off. What is the sale price?

10) An item that regularly sells for $425 is marked down to $318.75. What is the discount rate?

Practice problems for Pre-Algebra

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Answer Key

Fractions: Addition & Subtraction

1) $\frac{2}{3}$

2) $\frac{3}{5}$

3) $\frac{5}{7}$

4) $\frac{2}{5}$

5) $\frac{1}{5}$

6) $\frac{3}{5}$

7) $\frac{1}{2}$

8) $\frac{3}{8}$

9) $\frac{14}{15}$

10) $\frac{11}{42}$

11) $\frac{29}{30}$

12) $\frac{11}{18}$

13) $\frac{5}{24}$

14) $1\frac{4}{9}$

15) $1\frac{11}{36}$

16) $5\frac{1}{2}$

17) $1\frac{3}{5}$

18) $4\frac{3}{4}$

19) $1\frac{7}{8}$

20) $14\frac{1}{6}$

Fractions: Multiplication & Division

1) $\frac{1}{10}$

2) $\frac{9}{40}$

3) $\frac{9}{14}$

4) $\frac{3}{28}$

5) $\frac{1}{4}$

6) $\frac{5}{6}$

7) $\frac{3}{8}$

8) 4

9) $1\frac{11}{13}$

10) 14

Practice problems for Pre-Algebra

Please do your work on another page. This will help you organize your work and get the correct answer.

Signed Numbers:

Addition and Subtraction

1) -11

2) 3

3) -5

4) 9

5) -5

6) -5

7) 1

8) -4

9) 13

10) -15

11) 0

12) -10

13) -5

14) -11

15) -20

16) 31

17) 0

18) 0

19) -1

20) 1

Signed Numbers:

Multiplication & Division

1) 15

2) -15

3) 15

4) -15

5) -4

6) 4

7) $-\frac{1}{5}$

8) 6

9) -15

Practice problems for Pre-Algebra

Please do your work on another page. This will help you organize your work and get the correct answer.

Order of Operations

1) 10

2) 15

3) 3

4) -11

5) 26

6) 5

7) -32

8) 32

9) 13

10) 13

11) 26

12) 9

13) 0

14) 5

15) 49

16) 13

17) -56

18) 64

Distributive Property

1) $5y + 5$

2) $20x + 10$

3) $21x + 9$

4) $5x + 5y$

5) $3x^2 + 6x + 3$

6) $6x^2 + 10x + 4$

7) $12x^2 + 15xy + 6x$

8) $6x - 8x^2$

9) $-6x + 8$

10) $6x + 15$

Combining like terms

1) $7x^2 + 7x + 7$

2) $2x^3 + 10xy + y^3$

3) $X^2y + 7xy^2 + 2y^2$

4) $4x^3 - 2x^2 - x$

5) $-3w^4 - 12w^2$

6) $16y^2 - 34y + 25$

Practice problems for Pre-Algebra

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Solve the Equation

1) $x = 3$

2) $x = -7$

3) $x = 2$

4) $x = -3$

5) $x = 0$

6) $y = -18$

7) $x = 9$

8) $w = -25$

9) $x = -10$

10) $x = \frac{1}{2}$

Square roots

1) 3

2) 7

3) $3\sqrt{2}$

4) $5\sqrt{2}$

5) 4

6) 7

7) 0

8) 1

Ratio, Proportions, Averages and Percentages

1) $y = \frac{15}{2}$

2) x = 8

3) 12 cats

4) 32 girls

5) Mean = 13.2,

   Mode = 12

   Median = 13

6) 98%

7) 28

8) 16

9) sale price = $41.25

10) 0.25 *or* 25%