

I. Whole Number Operations

1) $487 + 991 =$ 2) $905 - 173 =$ 3) $879(8) =$ 4) $764 \div 4 =$

5) $497 + 401 =$ 6) $715 - 293 =$ 7) $97(96) =$ 8) $1,035 \div 3 =$

9) $47 + 871 =$ 10) $205 - 93 =$ 11) $302(45) =$ 12) $919 \div 6 =$

Find the mean, median, mean and range of each set of numbers below. Round your answer to the nearest tenth, if necessary.

1) 41, 89, 70, 12, 8

2) 109, 78, 276, 33, 123, 56

Use order of operations to simplify each expression below.

1) $28 - (48 \div 6)$

2) $120 + 4^3 - 5 \cdot 4$

3) $9 - 9(9) - (9 - 3)$

4) $(14 - 10) \div (7 - 5)$

5) $3(6 - 1)^2$

6) $20 + 15 - (4)(3)$

II. Integer Operations

Adding and Subtracting Integers

- 1) $-8 + (-14) =$ 2) $-4 + 3 =$ 3) $4 - 11 =$ 4) $12 - (-14) =$
- 5) $-22 + 19 =$ 6) $13 - 20 =$ 7) $-1 - (-16) =$ 8) $14 + (-14) =$
- 9) $-15 + (-27) =$ 10) $-24 + 3 =$ 11) $4 - 23 =$ 12) $-12 - (-14) =$
- 13) $-22 - 9 =$ 14) $13 + (-20) =$ 15) $7 - 16 =$ 16) $-14 + (-14) =$

Multiplying and Dividing Integers

- 1) $4(-8) =$ 2) $(-3)(6) =$ 3) $-12 \div 4 =$ 4) $12 \div (-12) =$
- 5) $(-4)(-8) =$ 6) $(-3)(0) =$ 7) $72 \div (-9) =$ 8) $-121 \div (-11) =$
- 9) $12(-11) =$ 10) $(-7)(-8) =$ 11) $-64 \div 4 =$ 12) $81 \div (-9) =$
- 13) $(4)(-8)(-1) =$ 14) $(-3)(6)(2) =$ 15) $-63 \div 9 =$ 16) $240 \div (-12) =$

Order of Operations with Integers

1) $14 - 20 \div 4$

2) $-8 + 4(-3)$

3) $(-3 + -1) \div (1 - 3)$

4) $2^3 - 4(3)$

5) $(11 - 8)^3 + 6$

6) $-12 - 8 + 24 \div 2 \cdot 3$

III. Operating with Rational Numbers

Adding and Subtracting Fractions

1) $\frac{3}{4} - \frac{1}{2} =$

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

3) $5\frac{2}{3} - 1\frac{4}{5} =$

4) $1\frac{5}{6} + (3\frac{3}{8}) =$

5) $9 - 6\frac{8}{9} =$

6) $4\frac{2}{3} + 6\frac{3}{5} =$

7) $8\frac{2}{3} - 6\frac{1}{2} =$

8) $1\frac{3}{4} + (3\frac{7}{8}) =$

9) $5\frac{2}{3} - (1\frac{4}{5}) =$

10) $\frac{5}{6} + (3\frac{3}{8}) =$

11) $16 - 9\frac{8}{9} =$

12) $11\frac{2}{3} - 2\frac{3}{5} =$

Multiply. Write the answer in simplest form.

1. $\frac{3}{5} \times \frac{1}{4}$

2. $\frac{1}{3} \times \frac{4}{7}$

3. $\frac{2}{3} \times \frac{7}{11}$

4. $\frac{6}{7} \times \frac{5}{6}$

5. $\frac{7}{8} \times 12$

6. $4 \times \frac{5}{12}$

7. $\frac{4}{9} \times \frac{4}{9}$

8. $\frac{3}{14} \times \frac{7}{9}$

9. $\frac{8}{9} \times \frac{24}{11}$

10. $2\frac{2}{5} \times \frac{1}{4}$

11. $5\frac{3}{5} \times \frac{5}{7}$

12. $4\frac{2}{5} \times 1\frac{7}{8}$

13. $1\frac{3}{4} \times \frac{20}{21}$

14. $4\frac{9}{10} \times 1\frac{1}{7}$

15. $5\frac{5}{12} \times 2\frac{2}{5}$

16. $8\frac{1}{3} \times 4\frac{1}{2}$

Dividing Rational Numbers

Write the reciprocal of the number.

1. $\frac{5}{8}$

2. 6

3. $\frac{1}{3}$

4. $\frac{7}{4}$

Divide. Write the answer in simplest form.

5. $\frac{1}{6} \div \frac{1}{3}$

6. $\frac{3}{4} \div 6$

7. $\frac{3}{5} \div \frac{2}{15}$

8. $10 \div \frac{2}{7}$

9. $\frac{3}{8} \div \frac{9}{16}$

10. $\frac{5}{9} \div 15$

11. $\frac{10}{27} \div \frac{2}{3}$

12. $\frac{18}{25} \div \frac{8}{15}$

13. $\frac{7}{12} \div 14$

14. $3\frac{3}{4} \div 5\frac{1}{4}$

15. $7\frac{1}{2} \div 1\frac{3}{4}$

16. $6\frac{2}{9} \div 6\frac{2}{3}$

IV. Rational Number Conversions

Converting decimals to fractions

1) 0.75

2) 1.3

3) -0.7

4) 0.877

5) 0.156

6) -2.35

7) 0.14

8) -0.08

9) 1.64

10) -2.2

Converting fractions to decimals

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

2) $\frac{9}{16}$

3) $\frac{17}{20}$

4) $\frac{5}{12}$

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

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

7) $\frac{3}{16}$

8) $\frac{1}{20}$

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

10) $\frac{9}{10}$

V. Simplifying Expressions

Distributive Property

1) $11(x + 9)$

2) $9(c - 8)$

3) $5(2x + 1)$

4) $12(9 + 5t)$

5) $-6(x + 12)$

6) $-(9x + 1)$

7) $-7(c - 12)$

8) $(8 - 5r)(6)$

Combining Like Terms: Simplify each expression.

1) $r + r + 3r$

2) $5t + 4t - 2t$

3) $-t + 3t - 2t$

4) $6r + 7 + 8r$

5) $-4 + 5n + 12$

6) $-5 + 8 + 3g$

7) $6m + 4t - 6m$

8) $3d + 8j + 6d$

9) $2(r + 6) + 10$

10) $4(b - 7) + 12$

11) $12 + 3(t + 4)$

12) $-3(t + 4) - 8t$

13) $4r + 6y - 2r - y$

14) $-2y + 6y - 9y - 12$

15) $10 - 10 - 10x$

16) $-10x - 10 - 10$

VI. Using Formulas to Find Area of 2-Dimensional Shapes: When finding the area of any shape, as a seventh grader, you must use the following format:

1) Write down the formula.

$$A = lw$$

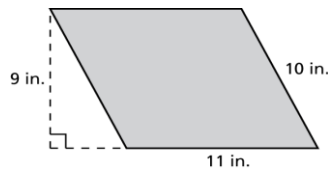
2) Substitute the known values.

$$A = 4 \cdot 9$$

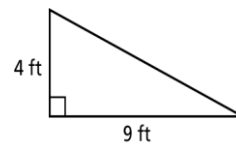
3) Evaluate.

$$A = 36 \text{ cm}^2$$

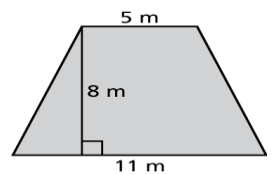
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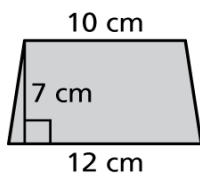
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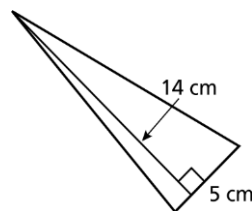
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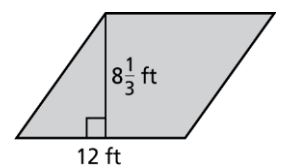
4)



5)



6)



7) Find the area of a square whose side lengths are 3.5 cm. long.

8) The area of a rectangle is 180 square centimeters. If the length of the rectangle is 4.5 cm, find the height.

VII. Write the word sentence as an equation.

1. 4 is the quotient of 16 and a number n .

2. The sum of a number k and 5 is 11.

3. The difference of a number x and 2 is 7.

4. 7 times a number a is 42.

5. 6 is one-third of a number s .

6. A number t added to 13 equals 17.

7. 5 less than a number b is 16.

8. 30 is 6 multiplied by a number y .

9. A number z divided by 7 equals 4.

10. 5 more than a number m equals 8.

11. 20 equals 8 more than a number y .

12. The sum of a number x and 8 is 15.

13. 4 less than a number g equals 9.

14. A number w decreased by 10 is 3.

VIII. Tell whether the given value is a solution of the equation.

1. $x + 16 = 20$; $x = 4$

2. $p - 4 = 28$; $p = 32$

3. $4w = 44$; $w = 10$

4. $\frac{y}{6} = 6$; $y = 24$

5. $2.5w = 12.5$; $w = 5$

6. $\frac{1}{4} = \frac{1}{8}m$; $m = 2$

Solving Equations with Addition and Subtraction

1. $x - 5 = 9$

2. $y - 12 = 0$

3. $q + 8 = 25$

4. $f - 22 = 14$

5. $8 + s = 10$

6. $r - 3.2 = 1.7$

7. $8.9 = v + 7.3$

8. $\frac{1}{3} + n = \frac{2}{3}$

9. $\frac{2}{3} = \frac{1}{4} + g$

10. $63 = r + 31$

11. $x - 25 = 16$

12. $26 = m + 18$

13. $\frac{2}{3} = a - \frac{2}{3}$

14. $f + \frac{1}{4} = \frac{7}{8}$

15. $2.3 = q - 3.6$

Solving Equations with Multiplication and Division

1. $\frac{x}{2} = 9$

2. $4 = \frac{t}{4}$

3. $\frac{3w}{20} = 12$

4. $5s \div 7 = 30$

5. $5a = 15$

6. $8 \cdot d = 40$

7. $60 = 20m$

8. $7g = 14$

9. $9y = 72$

10. $3 \cdot n = 63$

11. $4 = \frac{v}{11}$

12. $\frac{c}{7} = 5$

13. $\frac{5b}{2} = 27.5$

14. $2h \div 15 = 20$

15. $24k = 60$

16. $210 = 7r$