

I. Integer Operations

Adding and Subtracting Integers

1) $-18 + (-14) =$ 2) $-24 + 30 =$ 3) $14 - 23 =$ 4) $12 - (-14) =$

5) $-22 + 9 =$ 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) $-12 - 8 + 24 \div 2 \cdot 3$

II. Operating with Rational Integers

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) $-2 - 6\frac{1}{2} =$

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

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

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

11) $6 - 9\frac{8}{9} =$

12) $1\frac{2}{3} - 2\frac{3}{5} =$

Multiplying and Dividing Rational Numbers. Write your answer in simplest form.

1. $-\frac{2}{7} \div \frac{10}{7}$

2. $-\frac{1}{2} \div \left(-\frac{3}{4}\right)$

3. $\frac{2}{3} \div (-14)$

4. $-1\frac{1}{6} \div \frac{5}{3}$

5. $-0.72 \div (-0.9)$

6. $5.4 \div (-3.6)$

7. $\frac{2}{5} \times \left(-\frac{10}{7}\right)$

8. $-\frac{3}{4} \cdot \left(-\frac{10}{9}\right)$

9. $\frac{3}{2} \left(-2\frac{2}{9}\right)$

10. $\left(-1\frac{3}{8}\right)^2$

11. -3.7×2.1

12. $-5.7 \cdot (-2.06)$

13. $-\frac{3}{7} \div \frac{11}{35}$

14. $-\frac{1}{9} \div \left(-\frac{13}{30}\right)$

15. $1\frac{5}{6} \div (-30)$

16. $-2\frac{4}{5} \div 10\frac{2}{3}$

17. $-0.801 \div (-0.09)$

18. $14.616 \div (-2.32)$

19. $-\frac{2}{15} \times \left(-\frac{25}{6}\right)$

20. $-\frac{3}{14} \cdot \frac{21}{12}$

21. $1\frac{2}{3} \left(-2\frac{9}{10}\right)$

22. $-\left(3\frac{2}{5}\right)^2$

23. -2.75×3.1

24. $-1.27 \cdot (-2.02)$

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

IV. 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) $-10x - 10 - 10$

V. 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.*

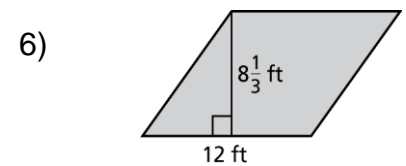
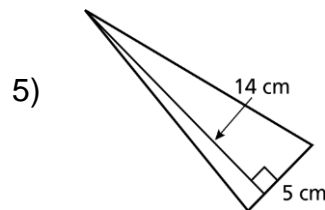
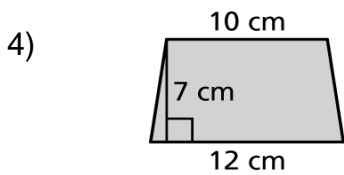
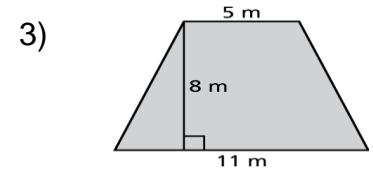
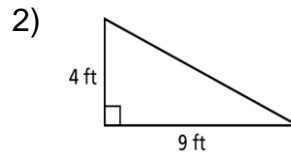
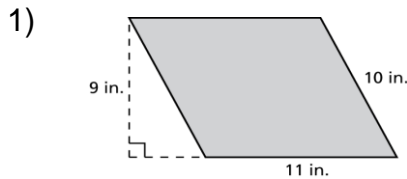
$$A = lw$$

2) *Substitute the known values.*

$$A = 4 \cdot 9$$

3) *Evaluate.*

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



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.

VI. 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.
16. 20 equals 8 more than a number y .
17. The sum of a number x and -8 is 15.
18. 4 less than a number g equals 9.
19. A number w decreased by 10 is 3.

VII. 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. $210 = 7r$