



Write each as an integer.

1. \$8 earned

2. 5 degrees below zero

3. 4 books removed

Compute.

4. $-6 + (-6) + 4$

5. $-4 \cdot -(-6) \cdot (-3)$

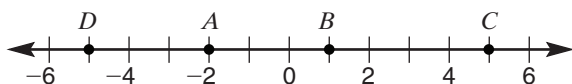
6. $-38 - (-53)$

7. $-50 \div -10$

8. $-8 \cdot (-1) \cdot 6$

9. $98 \div (-7)$

Find the distance between each set of points on the number line below.



10. D and A

11. C and D

Name the opposite quantity in the situation.

12. a temperature decrease of 14°F

Name the property used.

13. $2 \cdot -5 = -5 \cdot 2$

14. $(4 + 3) + 2 = 4 + (3 + 2)$

Tell whether the set is closed under the given operation. If the set is *not* closed under the operation, give a counterexample to show it is not closed.

15. Set: prime numbers

Operation: subtraction _____

Evaluate the expression.

16. $3 \cdot (-5) - (72 \div 12)$

17. $16 \div (-2 + 4) - 5 \cdot (-3)$

18. $(-8 + 3) \cdot 6 \div (-2) - 4$

Solve problems 19 and 20 on a separate sheet of paper. Show all your work.

Solve. Check to justify your answer.

19. Isaac bought a game for \$53. Jamal spent \$8 less than Isaac and got four movies that each cost the same amount. How much did one movie cost?

Tell About It

Explain how you solve the problem.

20. Mr. Cho has twice as many dollar bills as quarters. His money in dollar bills and quarters totals \$15.75. How many of each does he have?

**Evaluate each expression when $a = -8$ and $b = 12$.**

1. $24 - a$

2. $a - b$

3. $4b + 6$

Write the word phrase as an algebraic expression or equation.

4. sixteen less than twice a number

Solve and check. Use the Properties of Equality.

5. $11 + b = 33$

6. $10y = -160$

7. $n + (-10) = 50$

8. $\frac{a}{5} - 20 = 40$

9. $60 = 12m - 12$

10. $c + (c - 23) = 23$

11. $16 = -4g + 4$

12. $\frac{k}{-7} + 2 = -5$

13. $6n + 18 = -2n + 2$

14. $-5(x - 5) = 25$

15. $4(b + 3) = 8$

16. $-6(t + 8) = 72$

Solve. Use an arithmetic or algebraic approach.

17. Micah paid a total of \$415 to have his car repaired. His mechanic charged \$140 for car parts plus \$55 per hour of work. How many hours did the repairs take?

18. Large boxes hold 3 times as much as small boxes. Layla has packed 4 large boxes and 7 small boxes. If she has packed a total of 22.8 cubic feet, how much does a large box hold?

Solve problems 19–21 on a separate sheet of paper. Show all your work.**Solve. Check to justify your answers.**

19. How many square feet of quilted fabric are needed to make a blanket measuring 8 feet by 10 feet?

20. Seven people attend a business meeting, and each person shakes hands with each other person exactly once. How many total handshakes occur at the meeting?

Tell About It**Explain how you solve the problem.**

21. A baseball tournament has 7 teams from the Northern League, 5 teams from the Southern League, and 16 coaches attend. Each team has the same number of players, and a total of 184 people (including players and coaches) attended. How many players were on each team?

**Tell whether each number is rational or not rational.**

1. 3.141592...

2. $-0.\overline{0209}$

Write an equivalent decimal. Tell whether the number is a terminating or repeating decimal.

3. $4\frac{2}{5}$

4. $-\frac{11}{40}$

Write as an equivalent fraction or mixed number.

5. 8.15

6. -31.04

Write each number in decimal form. Then identify the decimal as terminating or repeating.

7. $1\frac{1}{6}$

8. $\frac{13}{8}$

Estimate. Then find the actual sum, difference, product, or quotient.

9. $-50.36 + 36.07$

10. $73.6 - (-24.7)$

11. $0.038 \cdot 0.53$

12. $-0.2706 \div 0.33$

Solve. Check to justify your answer.

13. $\frac{x}{4.13} = 0.7$

14. $4.35n = 11.745$

15. $22.5a = -70.65$

16. $\frac{b}{-8.25} = -7.8$

Simplify by combining like terms, then solve.

17. $29.03 = 3.5c + 7.19$

18. $5.27d + 9.53d = -134.68$

19. $10.59 = 12.7g - 3.45 - 7.3g$

Solve each equation. Show your work.

20. $1.49(w - 4.3) = 8.195$

21. $2.6(z + 1.8) = 14.82$

22. $4.36(v + 8.27) = 47.96$

Solve problems 23 and 24 on a separate sheet of paper. Show all your work.**Solve. Check to justify your answers.**

23. Suppose each dimension of a rectangle is a whole number of meters, and its area is 180 square meters. What are the largest and smallest possible perimeters?
- _____

Tell About It**Explain how you solve the problem.**

24. Brian bought a pair of jeans that was on sale for one-third of its original price. Including the \$3.76 sales tax, he paid \$29.17. What was the original price of the jeans?
- _____

**Solve.**

1. Caleb needs $9\frac{2}{3}$ cups of orange juice. The juice comes in cartons containing $2\frac{1}{4}$ cups each. How many cartons should he buy?
- _____

3. A thermometer reads 75.2°F . Which temperatures are 8.9 degrees from 75.2°F ?
- _____

Tell whether the fraction is close to -1 , $\frac{-1}{2}$, 0 , $\frac{1}{2}$, or 1 .

5. $\frac{11}{897}$

6. $\frac{-78}{87}$

Simplify. Express your answer in lowest terms.

9. $\frac{3}{7} - \frac{9}{10}$

10. $1\frac{4}{5} + 3\frac{7}{8}$

Evaluate when $a = \frac{5}{9}$, $b = -\frac{11}{12}$, and $c = \frac{-7}{10}$.

13. ac

14. $b \div a$

Expand each expression.

17. $\frac{4}{5}(5m + \frac{1}{2}n - 15)$

18. $2.8(4f - 10g + 7)$

Tell About It

Explain how you solve each problem.

21. In 2007, there were 12 male social workers in Springfield. This is 18 fewer than $\frac{1}{2}$ the number of female social workers. How many female social workers were in Springfield?
- _____

2. During one week, Rosa spends $21\frac{7}{12}$ hours reading or playing basketball. She reads $1\frac{3}{4}$ hours each day. How long does she play basketball each day?
- _____

4. Simplify.

$$3(-5e + 9.2f) - 2(1.4 - 6.8e - 2.7f)$$

Compare. Write $<$, $=$, or $>$.

7. $\frac{-3}{5}$? -0.7

8. $4\frac{7}{9}$? $\frac{43}{9}$

11. $\frac{-5}{12} \cdot \frac{8}{9}$

12. $-3\frac{3}{4} \div (-2\frac{1}{2})$

What number makes each sentence true? Name the property used.

15. $y \cdot (\frac{-1}{20}) = 1$

16. $3\frac{1}{7} \cdot a = 0$

Solve. Check to verify your answer.

19. $\frac{-5}{6} \cdot b = -4\frac{3}{8}$

20. $\frac{7}{16} = \frac{-5}{14}c$

22. Dan practices the piano for $16\frac{1}{2}$ hours in 6 days. He practices in the morning and $1\frac{1}{2}$ hours in the afternoon. How long does Dan practice each morning? Solve and compare using arithmetic and algebraic methods.
- _____