

Adding and Subtracting Integers

1. Find each sum.

$$(a) -3 + (-2) = -5 \quad (b) 2 + (-3) = -1$$

$$(c) -8 + (+8) = 0 \quad (d) -6 + (+4) = -2$$

$$(e) -4 + (-5) = -9 \quad (f) 2 + (-6) = -4$$

2. Add.

$$(a) \begin{array}{r} 5 \\ -7 \\ \hline \end{array} \quad (b) \begin{array}{r} -3 \\ -4 \\ \hline \end{array} \quad (c) \begin{array}{r} -9 \\ -2 \\ \hline \end{array}$$

$$(d) \begin{array}{r} -4 \\ -6 \\ \hline \end{array} \quad (e) \begin{array}{r} 7 \\ -7 \\ \hline \end{array} \quad (f) \begin{array}{r} 7 \\ -2 \\ \hline \end{array}$$

$$(g) \begin{array}{r} -8 \\ -4 \\ \hline \end{array} \quad (h) \begin{array}{r} -4 \\ -3 \\ \hline \end{array} \quad (i) \begin{array}{r} -5 \\ -5 \\ \hline \end{array}$$

3. Find each difference.

$$(a) 4 - (-3) = 7 \quad (b) -5 - (-2) = -3$$

$$(c) 5 - (-3) = 8 \quad (d) -4 - (-7) = 3$$

$$(e) 6 - (-6) = 12 \quad (f) 4 - (4) = 0$$

$$(g) -7 - (-3) = -4 \quad (h) -7 - (-9) = 2$$

4. Subtract.

$$(a) \begin{array}{r} -4 \\ -2 \\ \hline \end{array} \quad (b) \begin{array}{r} 5 \\ -3 \\ \hline \end{array} \quad (c) \begin{array}{r} -7 \\ -3 \\ \hline \end{array}$$

$$(d) \begin{array}{r} -5 \\ -5 \\ \hline \end{array} \quad (e) \begin{array}{r} -7 \\ -8 \\ \hline \end{array} \quad (f) \begin{array}{r} 7 \\ -3 \\ \hline \end{array}$$

$$(g) \begin{array}{r} -7 \\ -3 \\ \hline \end{array} \quad (h) \begin{array}{r} -7 \\ -3 \\ \hline \end{array}$$

5. Simplify.

$$(a) 3 - (-4) = 7 \quad (b) -7 + 2 = -5$$

$$(c) 5 - 3 = 2 \quad (d) 3 - 5 = -2$$

$$(e) -4 - (-4) = 0 \quad (f) -4 - 4 = -8$$

$$(g) 5 - (-3) + 4 = 12 \quad (h) -4 - (-3) + 5 = 4$$

$$(i) -6 - 4 - 3 = -13 \quad (j) -4 + 7 - 5 = -2$$

6. Which choice would make each statement true: $>$, $<$, or $=$?

$$(a) -3 - 4 - 5 + 3 \blacksquare -4 - 3 - 1 - (-2)$$

$$(b) 4 - 7 + 6 - 8 \blacksquare -3 - 5 - (-7) - 4$$

$$(c) 9 - 6 - (-4) - 5 \blacksquare 5 - 13 - 7 - (-8)$$

$$(d) 5 - 13 + 7 - 2 \blacksquare 4 - 5 - (-3) - 5$$

$$(e) 7 - 3 - (-15) - 11 \blacksquare -7 - 3 - (-11) - 1$$

7. In each row, which expression has the greatest value? the least value?

$$(a) -5 - 3 + 4, 4 - 3 - (-4), 5 - (-3) - 10$$

$$(b) 4 - 3 - 1, -5 - (-2) + 4, -14 + 5 + 6$$

$$(c) 9 - (-2) - 7, 5 - (-7) + (-9), -5 - 3 + 6$$

$$(d) -6 + 4 + 3 - 2, 4 - (-3) - 7, 5 - (-2) -$$

$$(e) -5 - 2 + 4, 3 - 12 + 2, -7 - (-2) + 1$$

Multiplying and Dividing Integers

1. Find each product.

$$(a) (-3)(2) = -6 \quad (b) (-4)(-9) = 36$$

$$(c) (4)(-3) = -12 \quad (d) (-7)(-3) = 21$$

$$(e) (5)(4) = 20 \quad (f) (-2)(7) = -14$$

2. Simplify.

$$(a) -2(-7) \quad (b) -3(8) \quad (c) 5(-7)$$

$$(d) -5(-7) \quad (e) -4(-9) \quad (f) -4(9)$$

3. Find each quotient.

$$(a) -18 \div (-6) = 3 \quad (b) -24 \div 6 = -4$$

$$(c) 51 \div (-17) = -3 \quad (d) -42 \div (-14) = 3$$

$$(e) -18 \div (18) = -1 \quad (f) -24 \div (-6) = 4$$

$$(g) 60 \div (-12) = -5 \quad (h) -30 \div (-15) = 2$$

4. Simplify.

$$(a) \frac{-50}{5} \quad (b) \frac{-15}{-5} \quad (c) \frac{30}{-6}$$

$$(d) \frac{48}{-6} \quad (e) \frac{16}{-16} \quad (f) \frac{-16}{-8}$$

$$(g) \frac{18}{-9} \quad (h) \frac{-81}{27} \quad (i) \frac{-18}{-9}$$

5. Evaluate.

$$(a) (-4)^2 \quad (b) (-2)^4 \quad (c) (-3)^4$$

$$(d) (-5)^2 \quad (e) -5^2 \quad (f) 4^3$$

$$(g) -4^3 \quad (h) (-2)^5 \quad (i) (-3)^2$$

6. Simplify.

Example:

$$-3(-2)^4 = -3(16) = -48 \quad \left[\begin{array}{l} \text{Calculate} \\ \text{powers first.} \end{array} \right.$$

$$(a) -2(-3)^2 \quad (b) 4(-2)^3$$

$$(c) 5(-3)^3 \quad (d) (-3)^2(-2)^2$$

$$(e) -3^2(-2)^3 \quad (f) (5)^2(-2)^2$$

$$(g) -5^2(-3) \quad (h) (-5)^2(-3)$$

7. Calculate.

$$(a) (-6)^2 \div (-3) \quad (b) -6^3 \div (-3)$$

$$(c) -3^4 \div (-3)^2 \quad (d) (-4)^3 \div (-2)^3$$

$$(e) 6^2 \div (-3)^2 \quad (f) -4^2 \div (-2)^3$$

$$(g) 2(-4)^2 \div (-8) \quad (h) -8 \div [(-2)(4)]$$

$$(i) -8(-3) \div (-2)^2$$

8. Calculate.

$$(a) (5^2 \div 5) \times (7^2 \div 7)$$

$$(b) (4^3 \div 2^2) \div (2 \times 2^2)$$

$$(c) (-4^3 \times 3) \times (3^2 \div 3)$$