1. Simplify the expressions.
   a) $12 - 8$
   b) $-75 - 6$
   c) $-145 - 8$

2. (See Video) Simplify the expressions.
   a) $\frac{-64}{11 - 3}$
   b) $\frac{-3 - 3^2}{2 - 3}$
   c) $\frac{6 - 2^3}{-2 + 4}$

3. (See Video) Use the rule for the order of operations to simplify the expressions.
   a) $2 - 6 - 2 \div 3 \cdot 3$
   b) $-2^3 - 3^2$
   c) $2 \cdot 2^3 + 10 \div 5 - 3^2$

4. Find the volume of the box below.

5. Find the area of the enclosed figures below.

6. (See Video) Simplify as much as possible.
   a) $-4 - (-3)$
   b) $-3 - |3 - 1| + 2$
   c) $3 + (-|2|)$

7. (See Video) Write out the mathematical expression. Then simplify the expression.
   a) The difference between -7 and -2.
   b) Subtract -2 from the quotient of 8 and -2.
8. Simplify the expressions.
   a) \(-3(4^2 - 3)\)  
   b) \(3 - 3^2 - 3\)^2 
   c) \(-2(2 + 3)^2 - 23\)^2

9. **(See Video)** How many 3-ounce glasses can you fill using two 9-ounce bottles of soda?

10. **(See Video)** Find a solution to each equation by inspection.
    
    a) \(3 \cdot x = 21\)  
    \[x = \] 
    b) \(-4 \cdot x = -28\)  
    \[x = \] 
    c) \(1 - x = 10\)  
    \[x = \]

11. **(See Video)** Answer true or false.
    
    a) -11 is less than -12  
    b) \(-|3| < |2|\)  
    c) -11 < -10
    
    d) The opposite of 3 is greater than -2.  
    e) -34 > -35

12. **(See Video)** Multiply or divide as indicated. Reduce when possible.
    
    a) \(\frac{9}{2} \div \frac{9}{7}\)  
    
    b) \(\frac{x \cdot 3}{4} \div \frac{3}{5}\)  
    c) \(\frac{1}{4} \div \frac{1}{2} \div \frac{1}{4}\)

13. **(See Video)** Simplify as much as possible.
    
    a) \(\left(\frac{1}{3}\right)^2 - \frac{1}{9}\)  
    b) \(1 + \frac{1}{2} \div \left(\frac{1}{3}\right)^3\)  
    c) \(1 - \frac{1}{5} \div \left(-\frac{1}{15}\right)\)

14. **(See Video)** Reduce the following fractions to their lowest terms.
    
    a) \(\frac{8ab^2}{16a}\)  
    
    b) \(\frac{48xyz}{8xz}\)  
    c) \(\frac{16x^2y^5z^4}{8yz}\)

15. **(See Video)** Simplify the expressions below as much as possible.
    
    a) \(\left[\left(\frac{4}{5}\right)^2 + \frac{4}{25}\right]^2\)  
    
    b) \(\left[\left(\frac{3}{2}\right)^3 - \frac{21}{8}\right]^2 - \frac{1}{16}\)