

# Math351

## Practice Exam #01

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)  $\frac{6-2^3}{-2+4}$

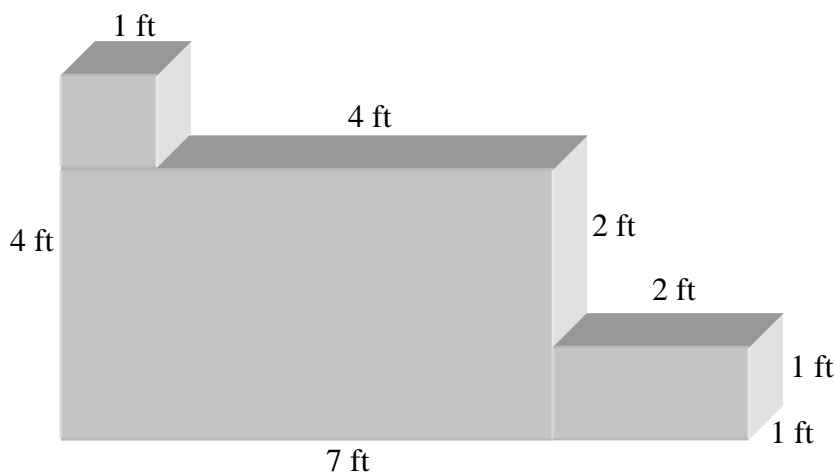
3. (See Video) Use the rule for the order of operations to simplify the expressions.

a)  $2 - 6 - 2 \div 2 \cdot 3$

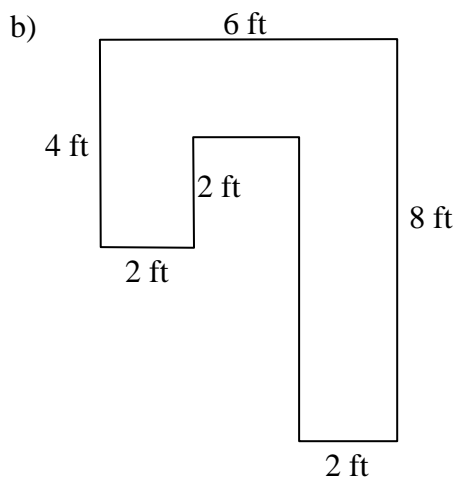
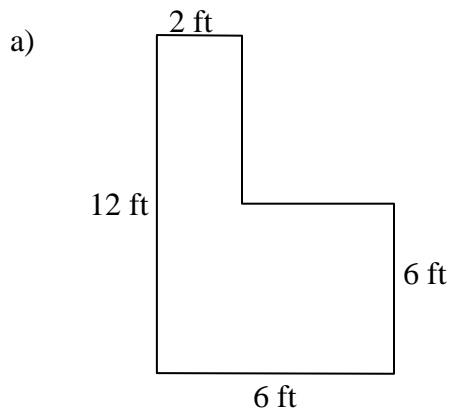
b)  $-2^3 - 3^2$

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)  $\frac{x}{4} \cdot \frac{3}{y} \div \frac{3}{5}$

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)  $\left[\left(\frac{3}{2}\right)^3 - \frac{21}{8}\right]^2 - \frac{1}{16}$