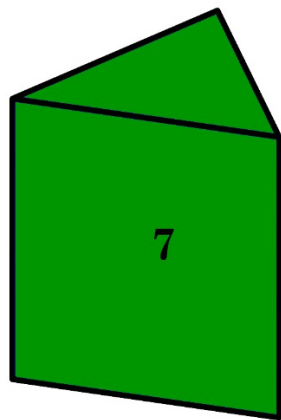
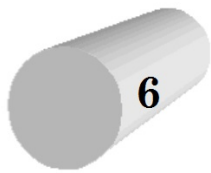
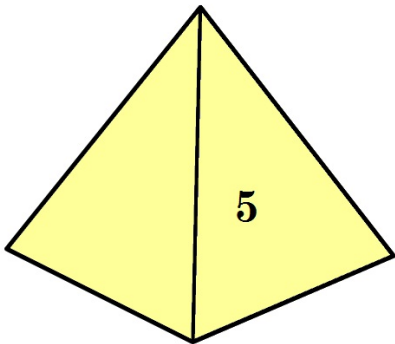
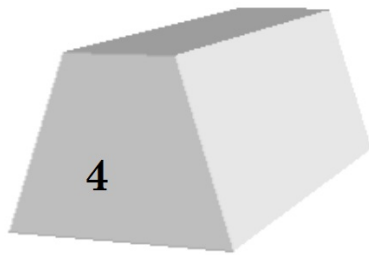
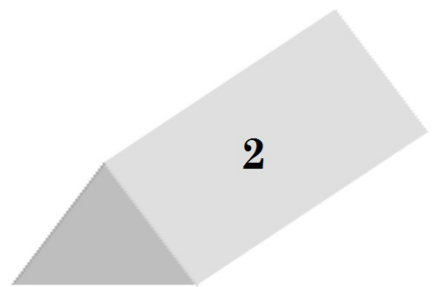
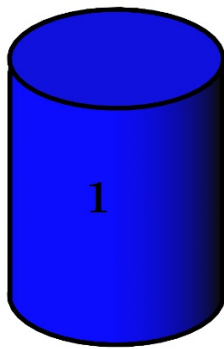
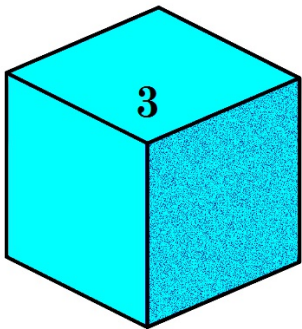


What is the base?



## Warm-Up 3/8

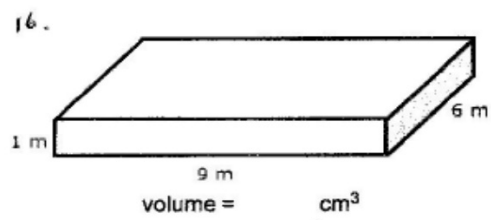
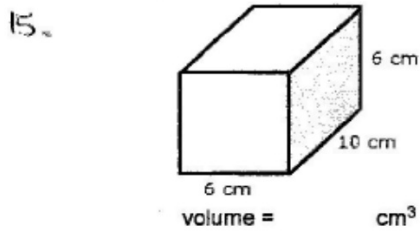
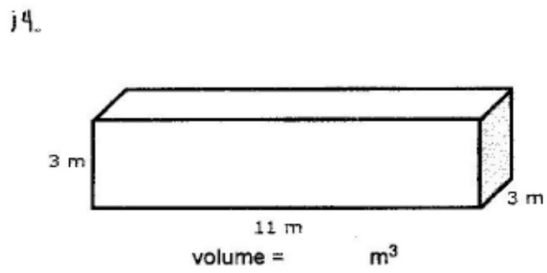
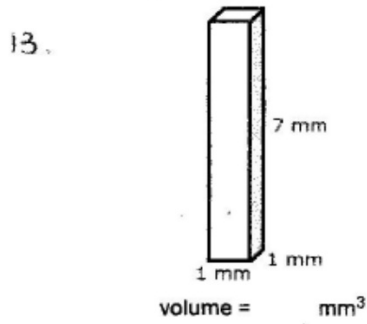
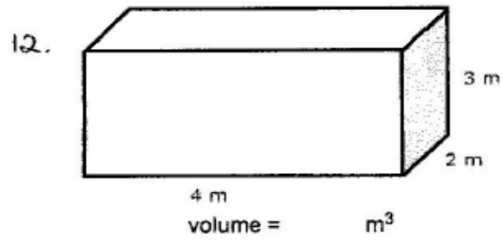
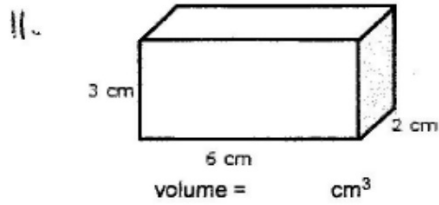
$V = Bh$  if  $B=6$  and  $h=4$ in      2.  $V = Bh$  if  $V=24$  and  $h=3$

$V=s^3$  if  $s = 4$ ft

4.  $SA = 2\pi r^2 + 2\pi r^2 h$ ,  
if  $r = 3$  and  $h = 5$ in

$A = \frac{1}{2}bh$  if  $A = 32$  and  $b = 12$ ft

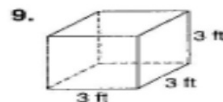
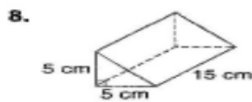
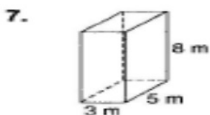
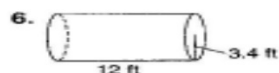
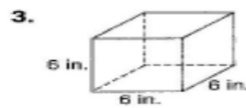
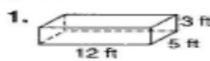
Calculate the volumes for each of the objects below.



Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

**LESSON**  
**6-6** **Practice A**  
**Volume of Prisms and Cylinders**

Find the volume to the nearest tenth of a unit. Prism:  $V = Bh$ .  
Cylinder:  $V = \pi r^2 h$ . Use 3.14 for  $\pi$ .



10. A rectangular box measures 6 ft by 8 ft by 2 ft. Explain whether doubling a side from 6 ft to 12 ft would double the volume of the box.

11. A can of vegetables is 4.5 in. high and has a diameter of 3 in. Find the volume of the can to the nearest tenth of a unit. Use 3.14 for  $\pi$ .

12. A telephone pole is 30 ft tall with a diameter of 12 in. Jacob is making a replica of a telephone pole and wants to fill it with sand to help it stand freely. Find the volume of his model, which has a height of 30 in. and a diameter of 1 in., to the nearest tenth of a unit. Use 3.14 for  $\pi$ .

## Warm-Up 3/11

Find the area...

1.

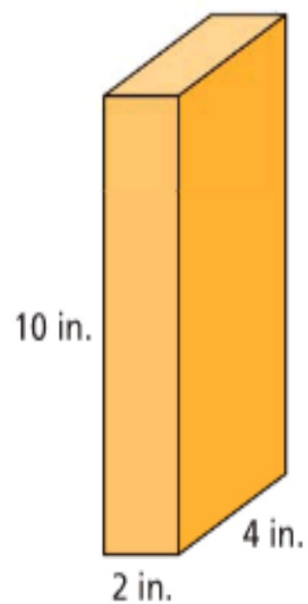


5 ft

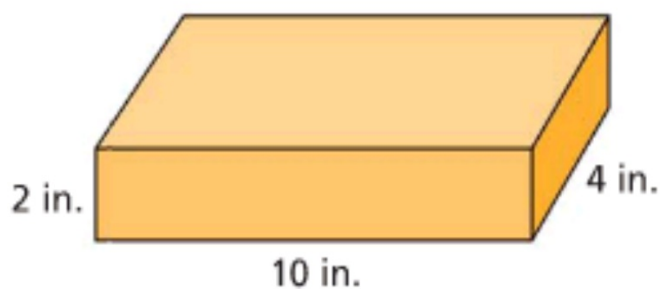
2. What would happen to the area if I doubled the sides?
3. What would happen if the original side was tripled?

ATC Toy Company is considering using Save-a-Tree's Box Z to ship alphabet blocks. Each block is a 1-inch cube. ATC needs to know how many blocks will fit into Box Z

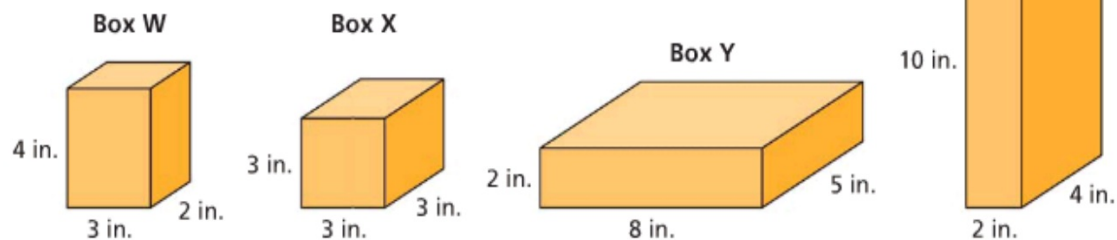
- A.** The number of unit cubes that fit in a box is the volume of the box.
1. How many cubes will fit in a single layer at the bottom of this box?
  2. How many identical layers can be stacked in this box?
  3. What is the total number of cubes that can be packed in this box?
  4. Consider the number of cubes in each layer, the number of layers, the volume, and the dimensions of the box. What connections do you see among these measurements?



- C.** Suppose Box Z is put down on its side so its base is 4 inches by 10 inches and its height is 2 inches. Does this affect the volume of the box? Does this affect the surface area? Explain your reasoning.



A company may have boxes custom-made to package its products. However, a company may also buy ready-made boxes. The Save-a-Tree packaging company sells ready-made boxes in several sizes.



**22** Filling and Wrapping

**D.** Apply your strategies for finding volume Boxes W, X, and Y.





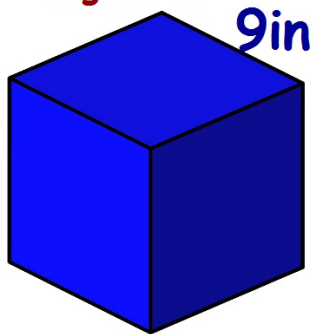
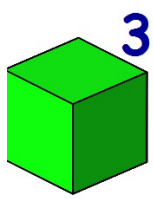
## Warm-Up 3/12

Two cubes are shown...

What is the ratio of the volume of Figure 2 to Figure 1?

Figure 1

Figure 2



What is the ratio of the volume of Figure 1 to Figure 2?

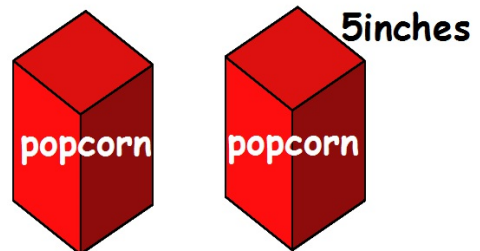
Find  $-3[2x - 5(3x - 6)]$

### M3 - Volume Activity

#### At the movie theater...

You can buy one large cylindrical popcorn for \$9 or two small popcorns (square prism) for the same price. They both are the same height, but the small popcorn is 5 inches long; whereas the large popcorn has a diameter of twice that. Which is the better deal?

You better have a good explanation and have math in there :-)



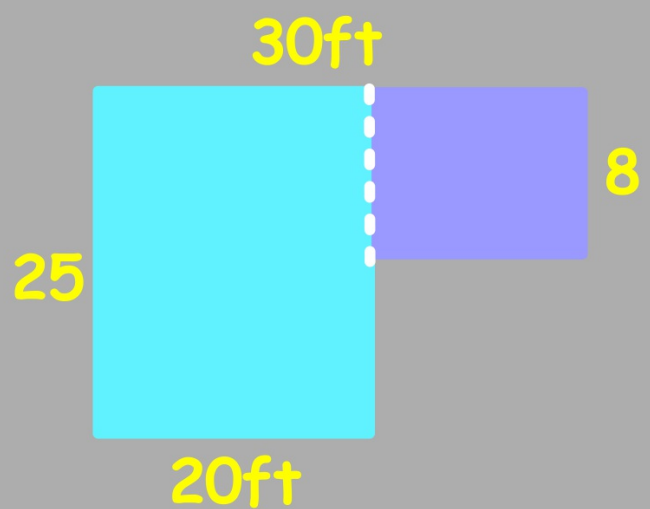
**Give an example that shows two rectangular prisms can have different heights but the same volume**



A rectangular swimming pool is 20 feet wide, 25 feet long, and 6 feet deep. The pool is half full...or half empty, depending on how you see things. What volume of water is in the pool?

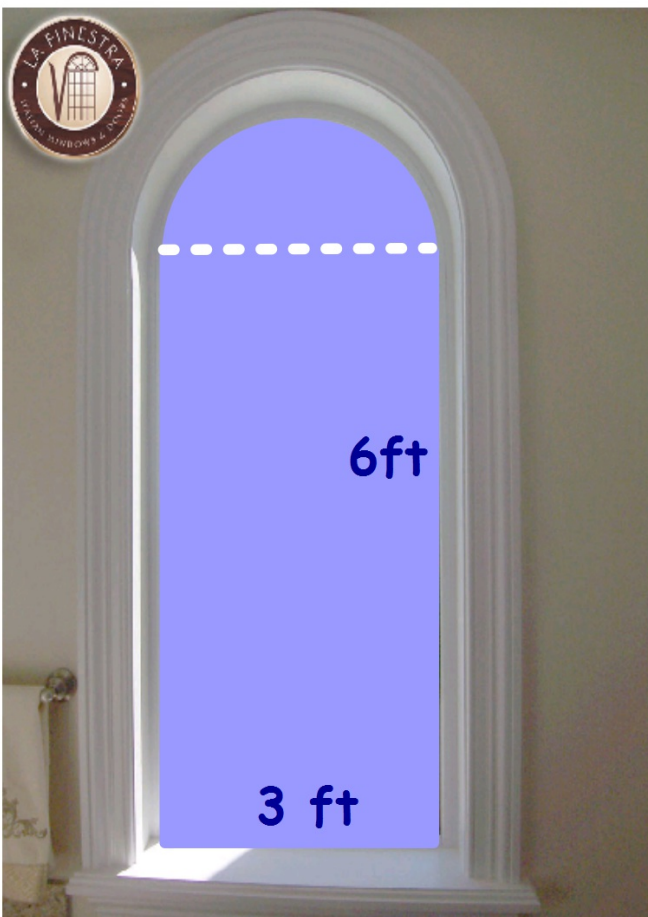


Notice, our pool is an irregular shape...



What is the volume if the pool dimensions as shown with deep end being 10 feet deep and the rest being 4 feet?

Find the area of the glass in the window



First team gets a prize..

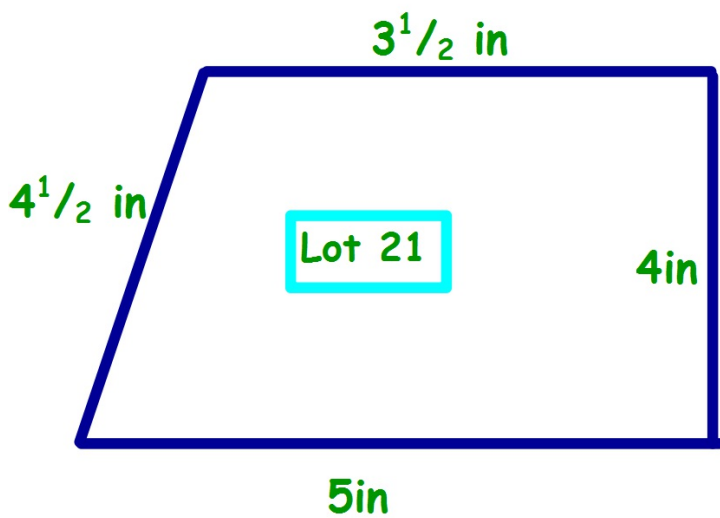
Simplify:

$$7x - 1(x - 7) + 1$$

$$\frac{2x - 12}{3}$$

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



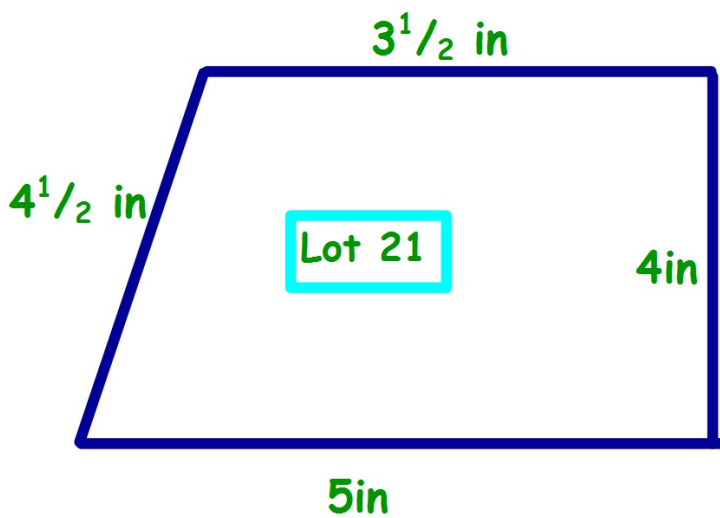


Lot 21 is a trapezoid with the two bases perpendicular to the road. The scale drawing uses the scale  $\frac{1}{2}$  in = 40 feet.

What is the **approximate** of Lot 21?

Hint:  $A = \frac{1}{2}h(b + b)$





Lot 21 is a trapezoid with the two bases perpendicular to the road. The scale drawing uses the scale  $\frac{1}{2}$  in = 40 feet.

A Real Estate Company has it listed at \$70,000 per acre. How much would Lot 21 cost??? [1 acre = 43,560 square feet]