

Conversions:

Convert the following to feet:

a) 15 inches

b) 9 inches

c) 26 inches

$$9 \text{ in} \times \frac{1 \text{ ft}}{12 \text{ in}} = 0.75 = \frac{9}{12} \rightarrow \frac{3}{4}$$

$$\cancel{15 \text{ inches}} \times \frac{1 \text{ ft}}{\cancel{12 \text{ inches}}} = 1.25 \text{ ft}$$

Convert the following to inches:

a) 2 feet

b) 3.5 feet

c) 11 feet

$$\cancel{2 \text{ ft}} \times \frac{12 \text{ in}}{\cancel{1 \text{ ft}}} = 24 \text{ in}$$

$$3.5 \text{ ft} \times \frac{12 \text{ in}}{1 \text{ ft}} = 42 \text{ in}$$

Conversions:

Convert the following to yards:

a) 9 inches

b) 14 inches

c) 27 inches

$$9 \text{ in} \times \frac{1 \text{ ft}}{12 \text{ in}}$$
$$= \frac{9}{12} \rightarrow \frac{3}{4} \text{ ft}$$

$$9 \text{ in} \times \frac{1 \text{ ft}}{12 \text{ in}}$$
$$= 0.75 \text{ ft}$$

$$\frac{3}{4} \text{ ft} \times \frac{1 \text{ yd}}{3 \text{ ft}} = \frac{3}{12} \text{ yd}$$
$$= \frac{1}{4} \text{ yd}$$

$$0.75 \text{ ft} \times \frac{1 \text{ yd}}{3 \text{ ft}}$$
$$= 0.25 \text{ yd}$$

14 inches \rightarrow Yards

$$14 \text{ in} \times \frac{1 \text{ ft}}{12 \text{ in}} = \frac{14}{12} = \frac{7}{6}$$

$$\frac{7}{6} \text{ ft} \times \frac{1 \text{ yd}}{3 \text{ ft}} = \frac{7}{18} \text{ yd}$$

Estimating Volume

Kelly wants to spread mulch on an irregularly shaped garden beside her deck. She wants to spread the mulch about 4in. deep throughout the garden. Mulch is sold in cubic yards. Determine the amount of mulch Kelly should order.

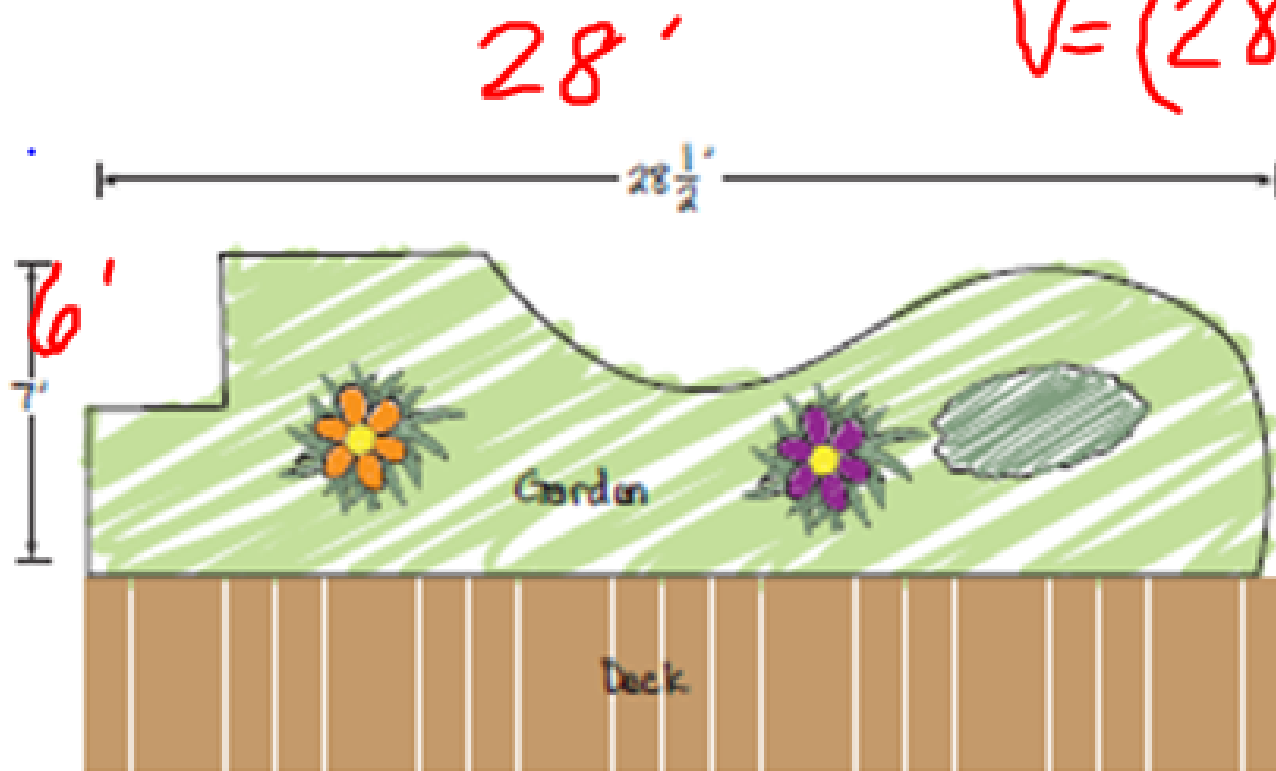
$$V = lwh$$

$$4\text{in} \times \frac{1\text{ft}}{12\text{in}} = \frac{1}{3}\text{ft}$$

$$V = (28') (6') \left(\frac{1}{3}\right)$$

$$V = 56\text{ft}^3$$

↑
Cannot convert directly to yards!



$$28' \times \frac{1 \text{ yd}}{3 \text{ ft}} = 9.2 \rightarrow 9 \text{ yd}$$

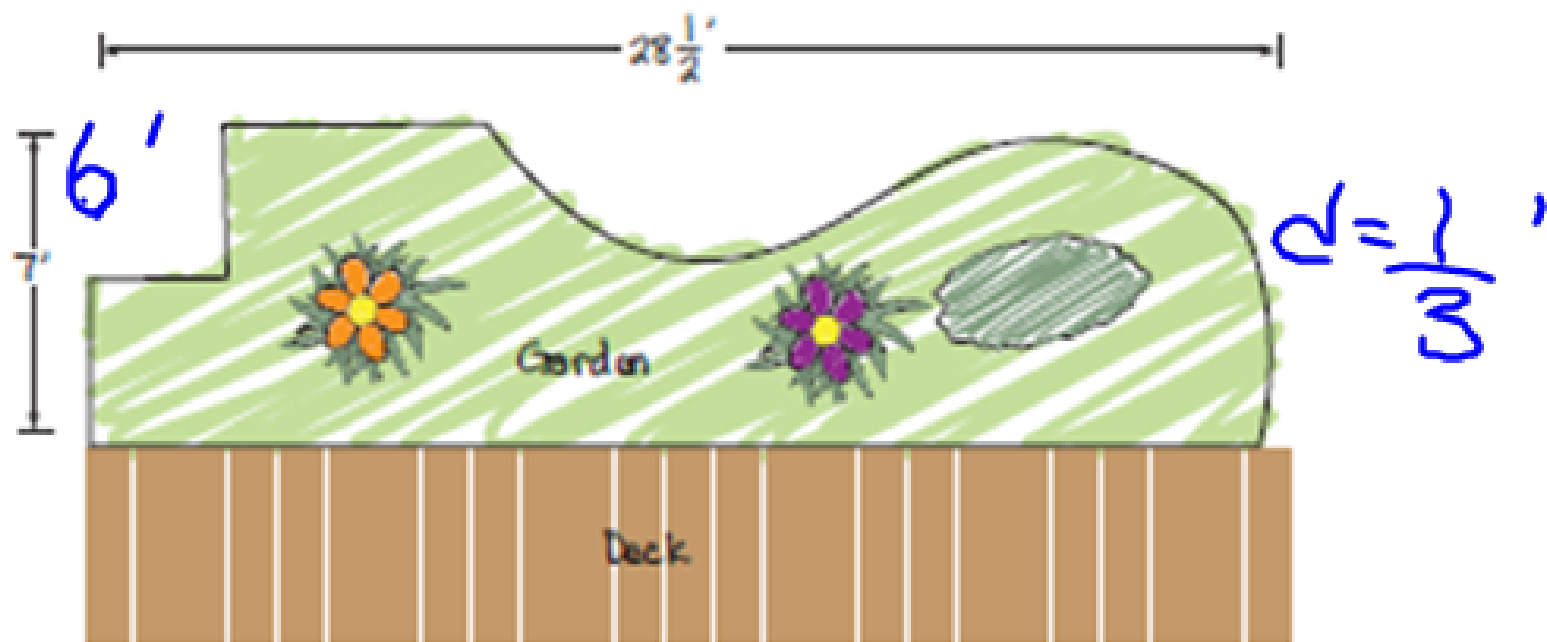
$$V = l \times w \times h$$

$$6' \times \frac{1}{3} \text{ yd} = 2 \text{ yd}$$

$$V = (9)(2)(\frac{1}{9})$$

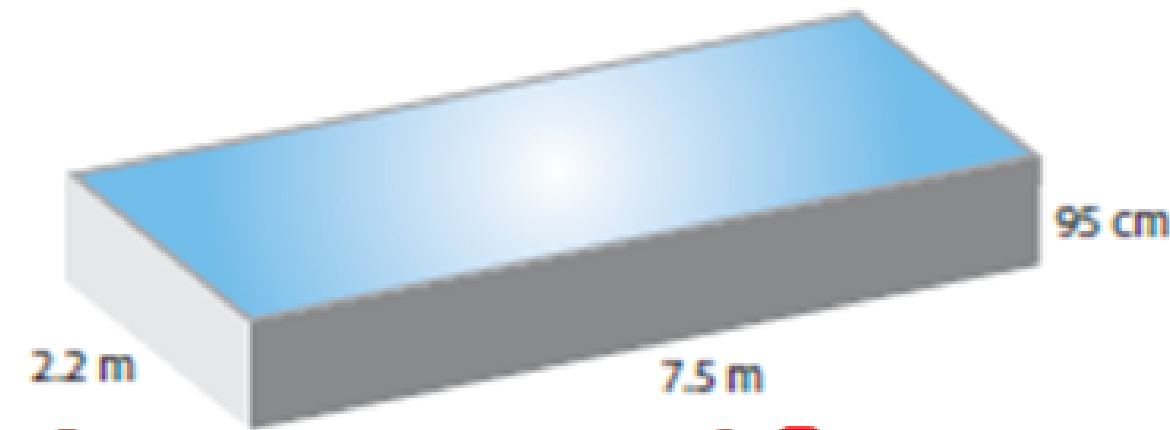
$$\frac{1}{3}' \times \frac{1 \text{ yd}}{28 \frac{1}{2} \text{ yd}} = \frac{1}{9} \text{ yd}$$

$$V = 2 \text{ yd}^3$$



Your Turn

Approximately how much water does this pool hold? Estimate the volume to the nearest cubic metre.



2.2 m

2 m

7.5 m

8 m

95 cm

0.95 m

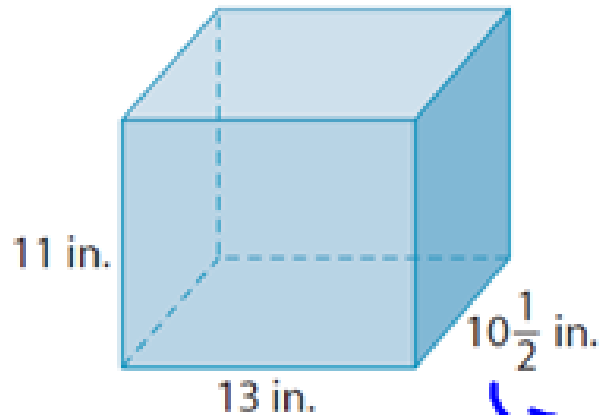
1 m

$$\frac{95 \text{ cm} \times 1 \text{ m}}{100 \text{ cm}}$$

$$\begin{aligned} V &= l \times w \times h \\ &= 2 \text{ m} \times 8 \text{ m} \times 1 \text{ m} \\ &= 16 \text{ m}^3 \end{aligned}$$

Yesterday... Page 114 #1

1. a) Estimate the volume of the rectangular prism.



$$V = lwh$$

$$V = (11)(13)(11)$$

$$\rightarrow 11 \text{ in} \quad V = 1573 \text{ in}^3$$

- b) Calculate the volume. Compare it to your estimate.

$$V = (11 \text{ in})(13 \text{ in})(10.5 \text{ in})$$

$$V = 1501.5 \text{ in}^3$$

Yesterday... Page 115 #6

6. Scott and Shanna have a circular sandbox in their backyard for their daughter. The diameter of the sandbox is 182 cm. They want the sand to be 10 cm deep.
- Estimate the area of the base of the sandbox, in square metres.
 - Estimate the volume of the sand needed, in cubic metres.
 - They can buy sand in 0.5-m^3 bags. How many bags should they buy?



$$d = 182 \text{ cm}$$
$$r = 91 \text{ cm}$$

$$\begin{aligned} \text{a) } \pi r^2 &= \pi (91 \text{ cm})^2 \\ &= 26015 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} V &= \pi r^2 \cdot h \\ &= (26015) (10) \\ &= 260150 \text{ cm}^3 \end{aligned}$$

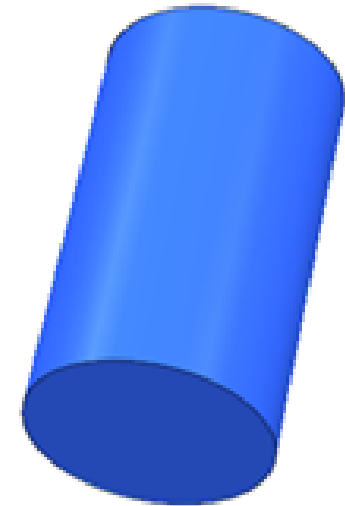
Work for today:

Page 116 #1, 2, 3, 4

Page 117 #5, 6, 8, 9

Given the shape on the right....

a) Estimate the volume



b) Calculate the volume. Compare your answer to your estimate. Is it close? Larger or smaller? Explain.