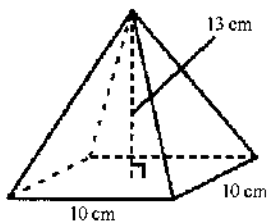


Agriculture Volume Quiz

Name

Key

1. Find the volume.



Not drawn to scale

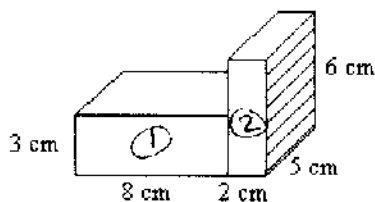
$$V = \frac{1}{3} Bh$$

$$V = \frac{1}{3}(10 \times 10) 13$$

$$V = 433.3 \text{ cm}^3$$

- a. 650 cm^3 b. 43.3 cm^3 c. 104.3 cm^3 d. 433.3 cm^3

2. Find the volume of the composite space figure.



$$V_1 = 3 \cdot 8 \cdot 5$$

$$V_1 = 120$$

$$V_2 = 2 \cdot 5 \cdot 6$$

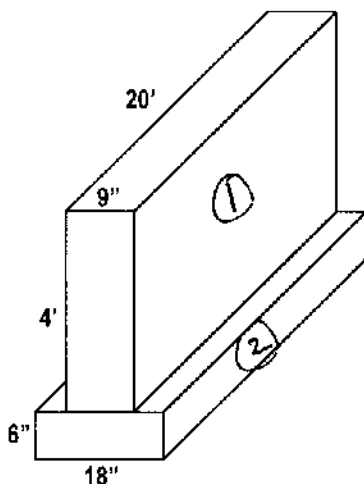
$$V_2 = 60$$

$$V = V_1 + V_2$$

$$120 + 60$$

$$V = 180 \text{ cm}^3$$

3. Determine the cubic yards of concrete needed to construct a retaining stem wall with the following dimensions: 4 ft. tall, 20 ft. long.



$$9 \text{ in.} \cdot \frac{1 \text{ ft}}{12 \text{ in.}} = \frac{3}{4} \text{ ft}$$

$$6 \text{ in.} \cdot \frac{1 \text{ ft}}{12 \text{ in.}} = \frac{1}{2} \text{ ft}$$

$$18 \text{ in.} \cdot \frac{1 \text{ ft}}{12 \text{ in.}} = \frac{3}{2} \text{ ft}$$

$$V_1 = 4(20)\left(\frac{3}{4}\right)$$

$$V_1 = 60 \text{ ft}^3$$

$$V_2 = \left(\frac{1}{2}\right)\left(\frac{3}{2}\right)(20)$$

$$V_2 = 15 \text{ ft}^3$$

$$V = V_1 + V_2$$

$$V = 60 + 15$$

$$V = 75 \text{ ft}^3$$

$$75 \text{ ft}^3 \cdot \frac{1 \text{ yd}^3}{27 \text{ ft}^3} = 2.8 \text{ yd}^3$$

4. A machine shop is 60 feet by 40 feet. If a 4-inch concrete floor is poured, how many cubic feet of concrete will be needed? How many cubic yards?



$$60 \text{ ft} \cdot \frac{1 \text{ yd}}{3 \text{ ft}} = 20 \text{ yd}$$

$$40 \text{ ft} \cdot \frac{1 \text{ yd}}{3 \text{ ft}} = \frac{40}{3} \text{ yd}$$

$$4 \text{ in} \cdot \frac{1 \text{ ft}}{12 \text{ in}} \cdot \frac{1 \text{ yd}}{3 \text{ ft}} = \frac{1}{9} \text{ yd}$$

$$V = lwh$$

$$V = 20 \left(\frac{40}{3} \right) \left(\frac{1}{9} \right)$$

$$V = 29.6 \text{ yd}^3$$

$$V = 60(40)\left(\frac{1}{3}\right)$$

$$V = 533.3 \text{ ft}^3$$

5. Concrete can be purchased by the cubic yard. How much will it cost to pour a slab 18 feet by 18 feet by 3 inches if the concrete costs \$53.00 per cubic yard?

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

$$\frac{3 \text{ in}}{1} \cdot \frac{1 \text{ ft}}{12 \text{ in}} \cdot \frac{1 \text{ yd}}{3 \text{ ft}} = \frac{1}{12} \text{ yd}$$

$$3 \text{ ft} = 1 \text{ yd}$$

$$V = 6(6)\left(\frac{1}{12}\right)$$

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

$$\$53 \cdot 3 \text{ yd}^3$$

$$\$159$$