Math 10

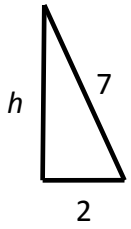
Lesson 6-5 Answers

Lesson Questions

Question 1

We are given the slant height from which we can calculate the height of the pyramid.

$$7^2 = h^2 + 2^2$$
$$49 = h^2 + 4$$
$$45 = h^2$$
$$\sqrt{45} = h$$



Now we can calculate the volume:

$$V = \frac{lwh}{3}$$
$$V = \frac{(4)(4)(\sqrt{45})}{3}$$
$$V = \mathbf{35.8\,ft.^3}$$

Question 2

$$V = \frac{lwh}{3}$$
$$V = \frac{(3.6)(4.7)(6.9)}{3}$$
$$V = \mathbf{38.9\,m^3}$$

Question 3

$$r = \frac{8\,mm}{2} = 4\,mm$$

$$V = \frac{\pi r^2 h}{3}$$
$$V = \frac{\pi(4)^2(13)}{3}$$
$$V = \mathbf{218\,mm^3}$$

Question 4

$$V = \frac{\pi r^2 h}{3}$$
$$300 = \frac{\pi r^2(8)}{3}$$
$$3(300) = \pi r^2(8)$$
$$\frac{3(300)}{8\pi} = r^2$$
$$\sqrt{\frac{3(300)}{8\pi}} = r$$
$$\mathbf{6\,m} = r$$

Assignment

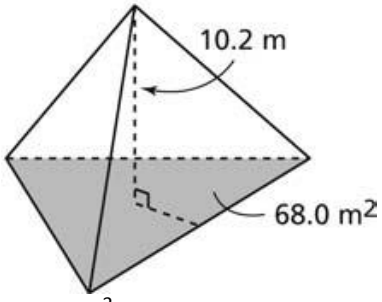
1. 1920 ft.^{3}

2. a) 1571 cm^3 b) 804 m^3

3. a) 18 m^3 b) 168 yd.^{3}

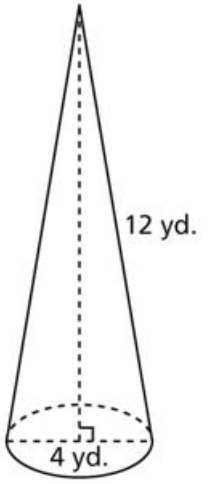
4. a) 37.7 m^3 b) 2948.9 cm^3

5. a)



b) 231.2 m^3

6. a)



b) 50 yd.^{3}

7. 0.3 m^3

8. a) 5 in.^{3} b) $3.33 c) Approximately 7 in.^{3}

9. a) 4.7 cm b) 10.5 m c) 3.3 m d) 7.4 cm

10. 8.0 cm

11. a) 22.9 kL b) Approximately 8.3 kL

12. 49.6 m^3