5.6 Geometry: Volume

In this worksheet, we will practice finding the volume of 3D figures. Most of these problems require you to reference the attached formula sheet. If you would like to review the basics, links to video descriptions can be found at the end of this worksheet. Starred problems have video solutions.

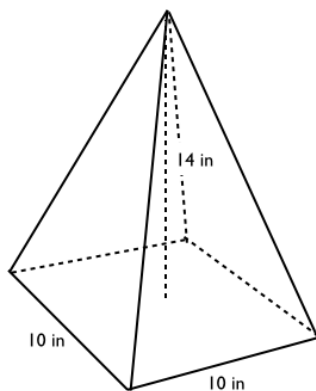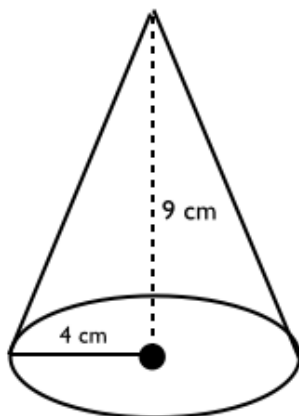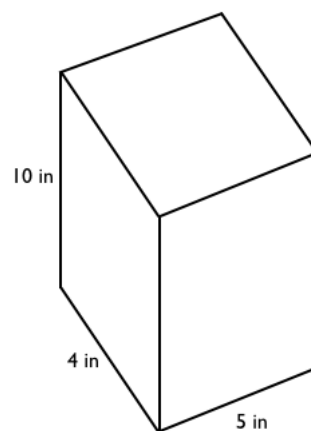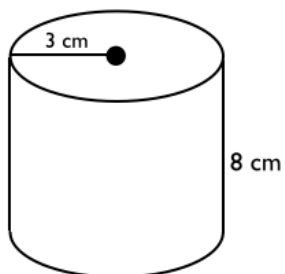**1** Find the volume of the following 3D figures. Found to the nearest tenth.
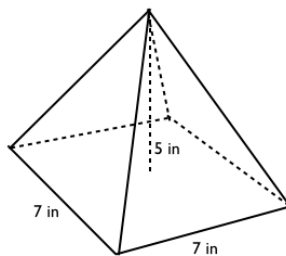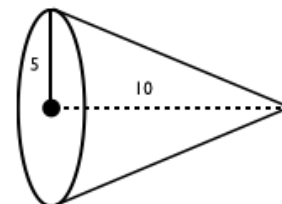
Figure 5.6.1

Figure 5.6.2

Figure 5.6.3

Figure 5.6.4

Figure 5.6.5

Figure 5.6.6
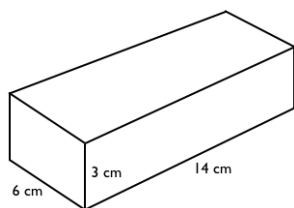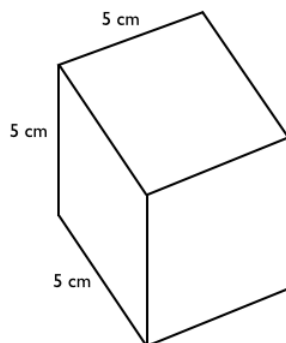
Figure 5.6.7

Figure 5.6.8
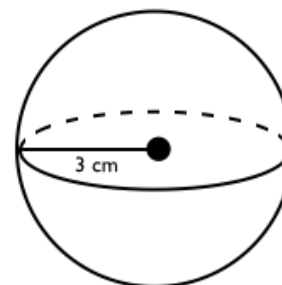
Figure 5.6.9

2 * A sphere is inside a cube so that it touches every side of the cube. If an edge of the cube is 5 inches, what is the difference between the volumes of the cube and of the sphere in cubic inches? Round your answer to the nearest hundredth.

   (a) 59.55

   (b) 398.60

   (c) 98.82

   (d) 104.17

3 A cylinder has volume 36pi. If its height is 4, then what is the diameter of the circular base?

   (a) 4

   (b) 3

   (c) 9

   (d) 6

4 Find the heights of the following 3D figures:

   (a) A rectangular prism with volume 75 and a base with area 25

   (b) A square pyramid with volume 25 and a base with area 25

   (c) A cone with volume 30pi and a base with area 9pi

   (d) A cube with volume 1000

Additional Resources:

- For review on finding the volume of:

   1. Triangular prisms and cubes: `http://youtu.be/ZqzAOZ9pP9Q`

   2. Cylinders: `http://youtu.be/gL3HxBQyeg0`

   3. Cones: `http://youtu.be/hC6zx9WAiC4`

   4. Spheres: `http://youtu.be/IelS2vg7JO8`

- Video solution for question 2: `http://youtu.be/3I1ucwHXfhw`