

Geometry Ch. 12
Test Fri. Ch. 12

Formulas will not be provided
(Which ones do you need?)

Projects due Fri. 9:15

+1 bonus point if received by Thurs. 3:30

prism
cyl.

$$V = B \cdot h$$

cone
pyr

$$V = \frac{1}{3} B h$$

spher

$$V = \frac{4}{3} \pi r^3$$

LA

$$p h$$

$$\frac{1}{2} p l$$

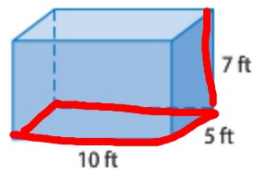
$$4 \pi r^2 \leftarrow \rightarrow$$

SA

$$p h + 2 B$$

$$\frac{1}{2} p l + B$$

Find the surface area of the rectangular prism.



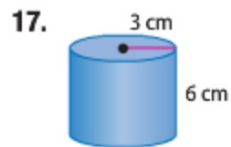
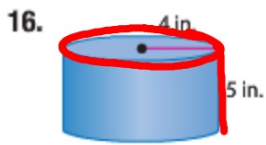
$$SA = ph + 2B$$

$$30 \cdot 7 + 2 \cdot 50$$

$$210 + 100$$

$$310 \text{ ft}^2$$

Find the lateral area and surface area of each cylinder. Round to the nearest tenth.



$$Ph + 2B$$

↓

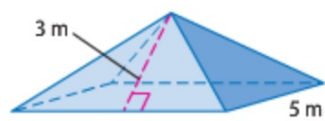
$$LA = (\pi \cdot 8)5 = 40\pi \approx 125.7 \text{ in}^2$$

$$SA = 125.7 + 2\pi \cdot 16 \approx 226.2 \text{ in}^2$$

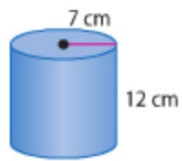
100.6

Example 3

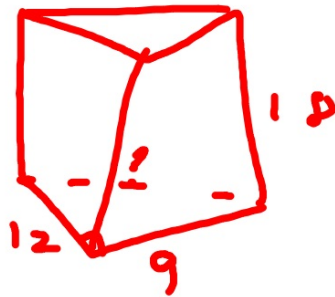
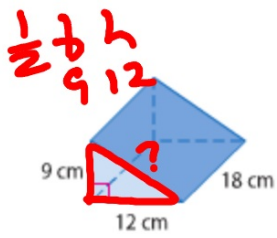
Find the surface area of the square pyramid. Round to the nearest tenth.



Find the volume of the cylinder.



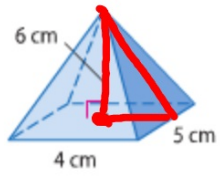
$$\begin{aligned} V &= Bh \\ &= \pi \cdot 7^2 \cdot 12 \\ &= 1847.3 \text{ cm}^3 \end{aligned}$$



$$\begin{aligned} V &= B \cdot h \\ &= 54 \cdot 18 \\ &= 972 \text{ cm}^3 \end{aligned}$$

Example 5

Find the volume of the pyramid.

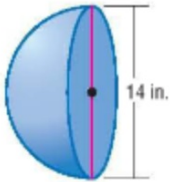


Find the volume of a cone that has a radius of 1 cm and a height of 3.4 cm.

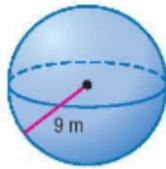
12-6 Surface Areas and Volumes of Spheres

Find the surface area of each figure.

26.



27.



$$\begin{aligned} SA &= \frac{1}{2} 4\pi r^2 + \pi r^2 \\ &= 307.9 + 153.86 \end{aligned}$$

29. sphere: area of great circle = $55\pi \text{ in}^2$



$$\frac{55\pi}{\pi} = \frac{\pi r^2}{\pi}$$

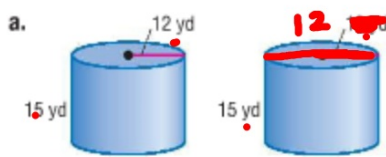
$$55 = r^2$$

$$r = 7.42$$

$$V = \frac{4}{3}\pi (7.42)^3 = 1711.2 \text{ in}^3$$

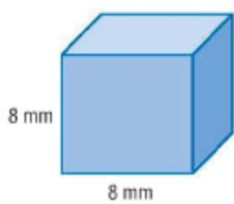
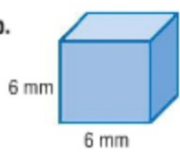
Example 8

Determine whether each pair of solids is similar, congruent, or neither. If the solids are similar, state the scale factor.



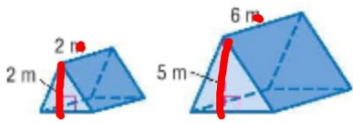
$$\frac{15}{15} \quad \frac{12}{12}$$

b.



$$\frac{6}{8} \quad \frac{36}{64} \quad \frac{216}{512}$$

40.



$$\frac{2}{6} \quad \frac{2}{5}$$

