

REVIEW

Name KEY

Hour _____ Date _____

In 1-2, choose the best response to complete each statement.

1.1-1 The -?- of a prism are where three faces intersect.

1.1 A

- a) edges b) lateral edges c) vertex d) base(s)

2.1-6 A -?- is the set of all points in space at a given distance from a given segment.

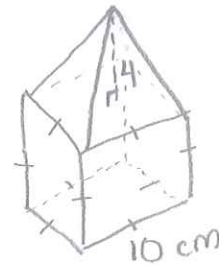
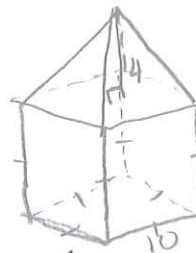
point

2.1 A

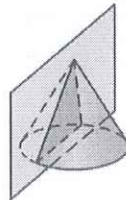
- a) sphere b) cylinder c) capsule d) circle

3.1-6 Sketch and label a composite solid with a cubical base having an edge of 10 cm and a fitted top of a square pyramid with a height of 4 cm.

3.1



4.1-1 Name the shape of the cross-section of the right cone.



4.2 Triangle

In 5, a) Name the solid, b) Find the surface area of the solid, and c) Find the volume of the solid.

5.5-6



$$\begin{aligned}
 SA &= \frac{1}{2} (4\pi r^2) \\
 &= \frac{1}{2} \cdot 4\pi (12)^2 \\
 &\approx 904.778
 \end{aligned}$$

5a.1 Hemisphere

5b.2 904.78 u^2

5c.2 3619.11 u^3

$$\text{Volume} = \frac{1}{2} \cdot \frac{4}{3} \cdot \pi \cdot (12)^3 = 3619.114$$

6.3-6 The volume of a hemisphere is 200π in³.
Find its diameter.

6.3 13.39 in

$$V = \frac{1}{2} \left(\frac{4}{3} \pi r^3 \right)$$
$$\frac{6}{4} (200\pi) = \left(\frac{4}{6} \pi r^3 \right) \frac{6}{4}$$
$$300 = r^3$$

$$r = \sqrt[3]{300} \approx 6.694$$
$$d = 2(6.694) = 13.388$$

7.3-2 Use Euler's Theorem to find the number of edges of a solid with 10 faces and 16 vertices.

7.3 E=24

$$F + V = E + 2$$
$$10 + 16 = E + 2$$
$$26 = E + 2$$
$$E = 24$$

8.3-6/7 If two similar hemisphere's have a surface area ratio of 81:100. Find the larger solid's equator length if the smaller solid's equator is 100 m long.

8.3 111.11 m

$$A_{\text{rat}} = \frac{81}{100}$$

$$\text{Length}_{\text{ratio}} = \frac{\sqrt{81}}{\sqrt{100}} = \frac{9}{10}$$

$$\frac{9}{10} = \frac{100}{x}$$

$$\frac{9x}{9} = \frac{10000}{9}$$

$$x \approx 111.11$$