

Name: Key Date: _____

Volume of Composite Figures

Find the total volume. Leave all answers in terms of π .

Pyramids (2)

Base: 24" x 48"

h = 36"

Sphere

r = 3"

$$V_{\text{sphere}} = \underline{36\pi}$$

Cone

r = 12"

h = 15"

$$V_{\text{cone}} = \underline{720\pi}$$

Cylinder

h = 12"

$$V_{\text{cylinder}} = \underline{1728\pi}$$

$$V_{\text{pyramid}} = \underline{13,824}$$

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Cube

s = 48"

$$V_{\text{cube}} = \underline{110,592}$$

Cylinders (2)

d = 10"

h = 36"

$$V_{\text{cylinder}} = \underline{900\pi}$$

$$V_{\text{cylinder}} = \underline{900\pi}$$

Rectangular Prisms (2)

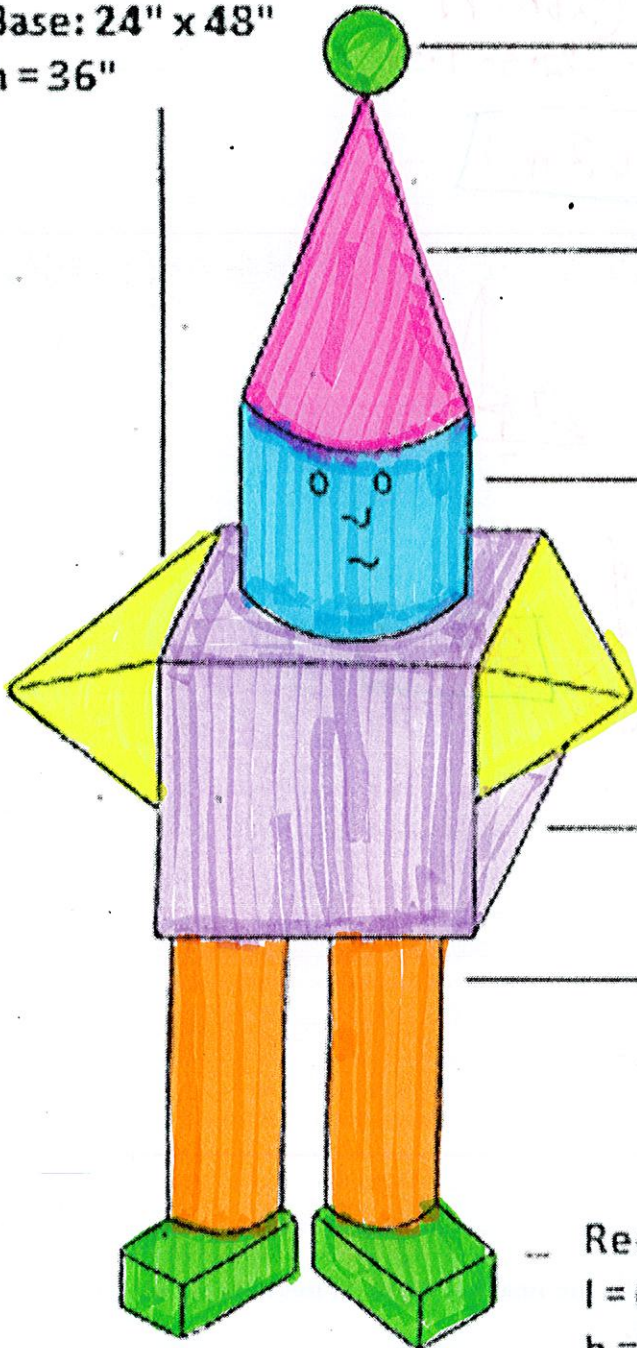
l = 6"

h = 6"

w = 12"

$$V_{\text{prism}} = \underline{432}$$

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Total Volume = $\underline{4284\pi + 139,104}$

$152,562.5829$

5.8 Volume Practice

Find the volume of each figure. Round your answers to the nearest tenth, if necessary.

- 1) A prism 6 cm tall with a right triangle for a base with side lengths 6 cm, 8 cm, and 10 cm.

144

- 2) A prism 5 in tall with a right triangle for a base with side lengths 3 in, 4 in, and 5 in.

30 in^3

$V = (\frac{1}{2}bh)h$
 $= \frac{1}{2} \cdot 3 \cdot 4 \cdot 5$

- 3) A rectangular prism measuring 9 m and 3 m along the base and 6 m tall.

$9 \cdot 3 \cdot 6 = 162 \text{ m}^3$

- 4) A rectangular prism measuring 12 in and 10 in along the base and 7 in tall.

840 in³

- 5) A pyramid 5 km tall with a right triangle for a base with side lengths 3 km, 4 km, and 5 km.

$V = \frac{1}{3} Bh$ 10 km^3



- 6) A pyramid 7 km tall with a right triangle for a base with side lengths 6 km, 8 km, and 10 km.

$\frac{1}{3} (\frac{1}{2} \cdot 6 \cdot 8) \cdot 7 = 56 \text{ km}^3$

- 7) A square pyramid measuring 6 mi along each edge of the base with a height of 7 mi.

$V = \frac{1}{3} Bh$ $\frac{1}{3}(bh)h = \frac{1}{3} \cdot 6 \cdot 6 \cdot 7$



84 mi^3

- 8) A rectangular pyramid of height 12 km measuring 9 km and 11 km along the base.

396 km³

- 9) A cone with radius 10 cm and a height of 20 cm.

2,094.4 cm³

- 10) A cone with diameter 16 cm and a height of 16 cm.

1,072.3

- 11) A sphere with a radius of 8 yd.

2,144.7 yd³

- 12) A sphere with a diameter of 10 km.

523.6 km³

Find the volume of each figure. Round your answers to the nearest tenth, if necessary. Leave your answers in terms of π for answers that contain π .

- 13) A cylinder with a diameter of 18 m and a height of 7 m.

$567\pi \text{ km}^3$

- 14) A cylinder with a radius of 8 km and a height of 4 km.

$256\pi \text{ km}^3$