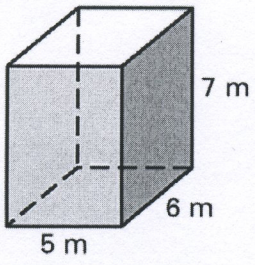
**Geometry Worksheet -- Prisms and Cylinders**

**Name** KEY

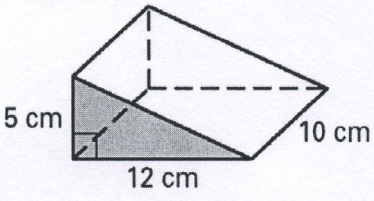
**Period**_____ **Date**_____

1. Find the volume of the right prism.



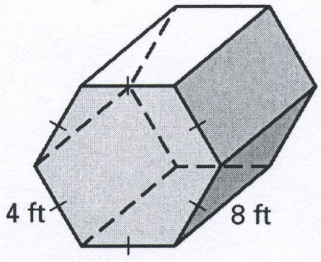

$V = \ell wh = (6)(5)(7) = 210\ m^3$

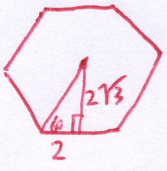
2. Find the volume of the right prism.




$V = Bh = \left(\frac{1}{2}\right)(5)(12)(10) = 300\ cm^3$

3. Find the volume of the right prism.



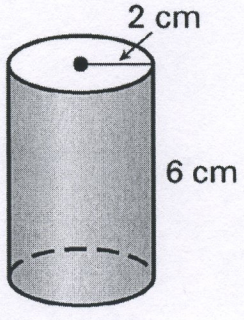




$a = 2\sqrt{3}$

$P = 4 \cdot 6 = 24$

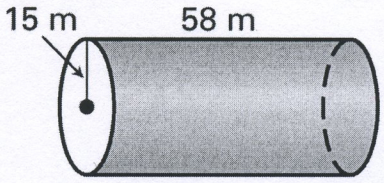
$V = Bh = \left(\frac{1}{2}\right)(2\sqrt{3})(24)(8) \approx 332.6\ ft^3$

4. Find the volume of the right cylinder.



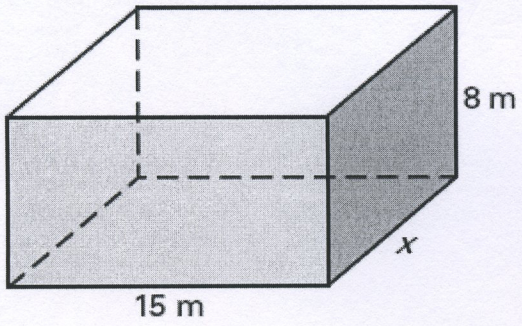

$V = Bh = \pi r^2 h = (\pi)(2^2)(6) = 24\pi\ cm^3$

5. Find the volume of the right cylinder.




$V = Bh = \pi r^2 h = (\pi)(15^2)(58) = 13050\pi\ m^3$

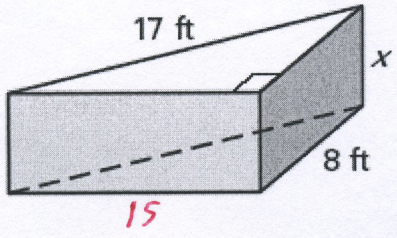
6. Find the length $x$ using the given volume $V=1440\ m^3$.




$V = lwh = (x)(15)(8) = 1440$

$x = \frac{1440}{15 \cdot 8} = 12\ m$

7. Find the length $x$ using the given volume $V=360\ ft^3$.



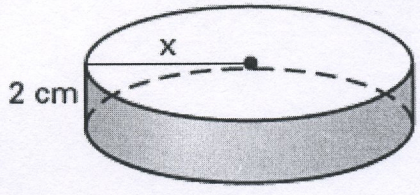

$\sqrt{17^2 - 8^2} = 15$

$V = Bh$

$360 = (\frac{1}{2})(15)(8)x$

$x = \frac{360}{60} = 6\ ft$

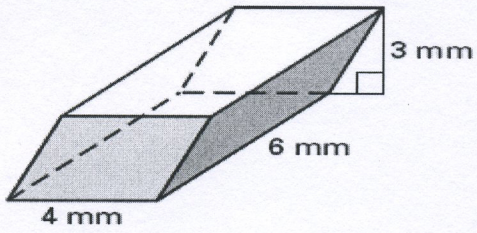
8. Find the length $x$ using the given volume $V=72\pi\ cm^3$.




$V = Bh = \pi r^2 h$

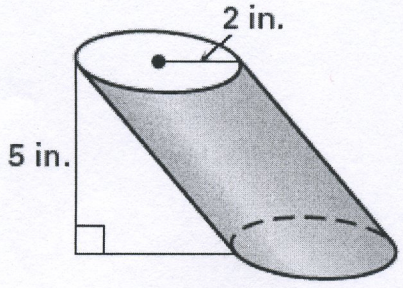
$r^2 = \frac{V}{\pi h} = \frac{72\pi}{2\pi} = 6\ cm$

9. Use Cavalieri's Principle to find the volume of the oblique prism.



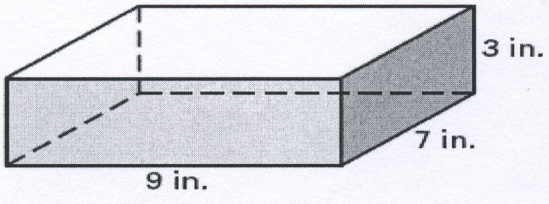

$V = Bh = (4)(6)(3) = 72\ mm^3$

10. Use Cavalieri's Principle to find the volume of the oblique cylinder.




$V = Bh = \pi r^2 h = (\pi)(2^2)(5) = 20\pi\ in^3$

11. Find the surface area and volume of the right prism.

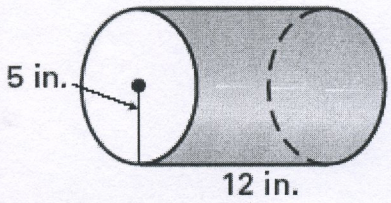



$S = 2B + L = (2)(9)(7) + (2)(7)(3) + (2)(9)(3)$

$= 222\ in^2$

$V = Bh = (9)(7)(3) = 189\ in^3$

12. Find the surface area and volume of the right cylinder.




$S = 2B + L = 2\pi r^2 + 2\pi rh$

$= (2)(\pi)(5^2) + (2)(\pi)(5)(12)$

$= 50\pi + 120\pi = 170\pi\ in^2$

$V = Bh = \pi r^2 h = (\pi)(5^2)(12) = 300\pi$

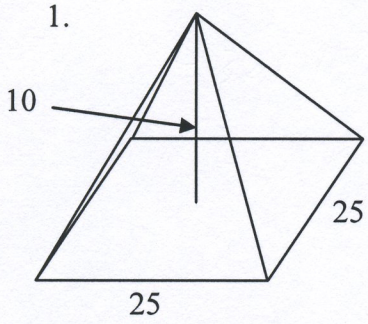
Geometry Worksheet -- Pyramids and Cones

Name KEY

Date _____ Period _____

Find the volume of each figure.

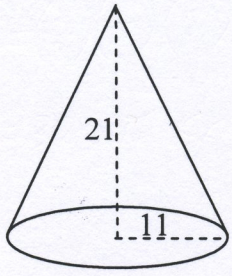
1.




$V = \frac{1}{3}Bh = \left(\frac{1}{3}\right)(625)(10)$

$= 2083.\overline{3}$

2.

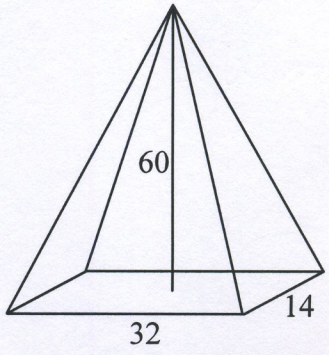



$V = \frac{1}{3}Bh = \frac{1}{3}\pi r^2 h$

$= \left(\frac{1}{3}\right)(\pi)(11^2)(21)$

$= 847\pi$

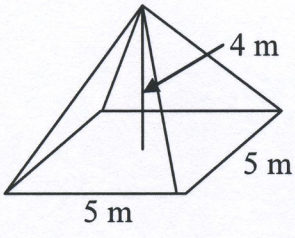
3.




$V = \frac{1}{3}Bh = \left(\frac{1}{3}\right)(448)(60)$

$= 8960$

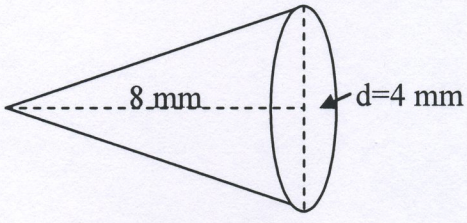
4.




$V = \frac{1}{3}Bh = \left(\frac{1}{3}\right)(25)(4)$

$= 33.\overline{3}\ m^3$

5.

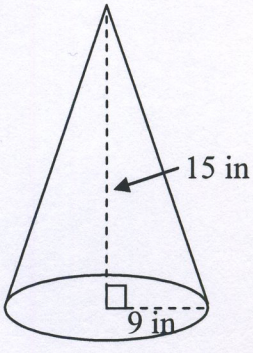



$V = \frac{1}{3}Bh = \frac{1}{3}\pi r^2 h$

$= \left(\frac{1}{3}\right)(\pi)(2^2)(8)$

$= 10.\overline{6}\pi\ mm^3$

6.




$V = \frac{1}{3}Bh = \frac{1}{3}\pi r^2 h$

$= \left(\frac{1}{3}\right)(\pi)(9^2)(15)$

$= 405\pi\ in^3$

7. **Square-based pyramid**
Side= 9 in
Height= 12 in

$V = \frac{1}{3}Bh = \left(\frac{1}{3}\right)(81)(12)$

$= 324 \text{ in}^3$

8. **Cone**
Radius = 8 cm
Height = 15 cm

$V = \frac{1}{3}Bh = \frac{1}{3}\pi r^2 h$

$= \left(\frac{1}{3}\right)(\pi)(8^2)(15)$

$= 320\pi \text{ cm}^3$

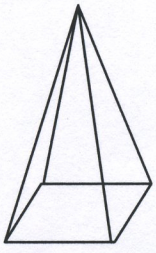
9. **Triangular pyramid**
Base Area = 15 $\text{m}^2$
Height = 20 m

$V = \frac{1}{3}Bh = \left(\frac{1}{3}\right)(15)(20)$

$= 100 \text{ m}^3$

Find the indicated dimension of each figure.

10. Volume = 80 $\text{cm}^3$
Length = 6 cm
Height = 10 cm



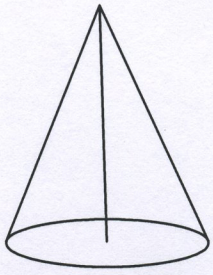
$V = \frac{1}{3}Bh = \frac{1}{3}\ell wh$

$80 = \left(\frac{1}{3}\right)(6)(w)(10)$

$80 = 20w, \; w = 4 \text{ cm}$

Width = 4 cm

11. Volume = 8,906.3 $\text{in}^3$
Height = 17 in
*Let $\pi = 3.14$ & round to nearest tenth.*



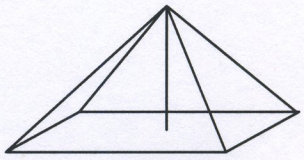
$V = \frac{1}{3}Bh = \frac{1}{3}\pi r^2 h$

$8906.3 = \left(\frac{1}{3}\right)(3.14)(r^2)(17)$

$r \approx 22.4 \text{ in}$

Radius = 22.4 in

12. Volume = 700 $\text{ft}^3$
Length = 30 ft
Height = 7 ft



$V = \frac{1}{3}Bh = \frac{1}{3}\ell wh$

$700 = \left(\frac{1}{3}\right)(30)(w)(7)$

$700 = 70w$

$w = 10 \text{ ft.}$

Width = 10 ft.