Accelerated Coordinate Algebra

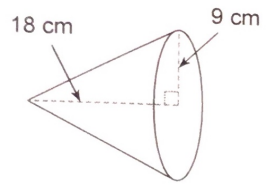
Name_____

Section 29.1--29.3,30.6, 31.1-31.3--Study Guide

Date_____ Period

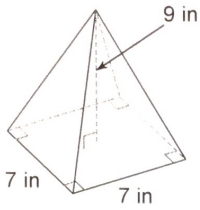
Find the volume of each figure. Round your answers to the nearest hundredth, if necessary.

1)



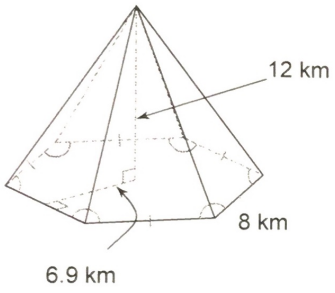
1526.81 cm³

2)



147 in³

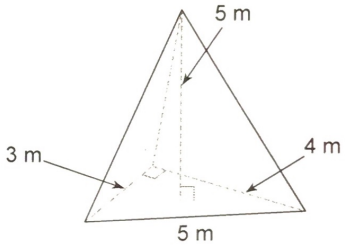
3)



~~662.41~~ km³

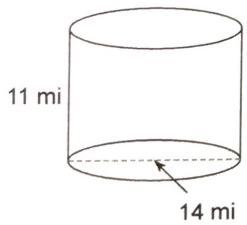
665.11

4)



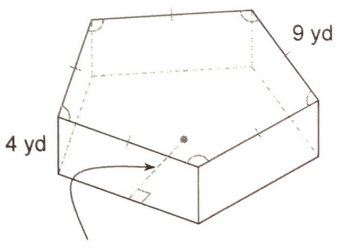
10 m³

5)



1693.32 mi³

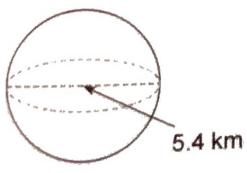
6)



~~558~~ yd³

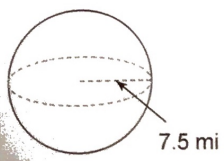
557.43

7)



82.45 km³

8)



1767.15 mi³

Find the area of each figure. Round your answer to the nearest tenth.

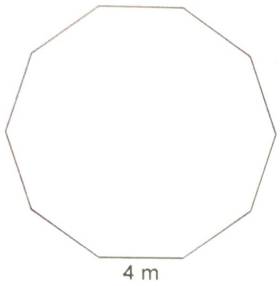
9) A regular hexagon with a perimeter of 36 in.

93.5 in^2

10) A regular pentagon 3 km on each side.

15.5 km^2

11)



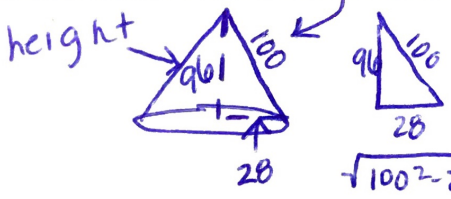
123.1 m^2

12) A rectangular prism has a volume of 24 *inches*^{3}. If the area of the base is 12 *inches*^{2}, what is the height of the prism?

2 inches $\quad l \cdot w \cdot h$ (base)

$12h = 24$

13) Find the volume of a cone that has a slant height of 100 *ft* and a radius 28 *ft*. Give your answer in both terms of π and rounded to the nearest tenth.



$\sqrt{100^2 - 28^2} = 96$

$\frac{\pi \cdot r^2 \cdot h}{3} \Rightarrow \frac{\pi \cdot 28^2 \cdot 96}{3}$

$25088\pi\ ft^3$ or $78816.3\ ft^3$

14) Find the radius of a cylinder that has a volume of 200π cm^3 and a height of 8*cm*.

$200\pi = \pi r^2 \cdot 8$

$\frac{200}{8} = \frac{r^2 \cdot 8}{8}$

$25 = r^2$

$5 = r$

15) Find the height in centimeters of a square pyramid with a volume of 243 cm^3 and a base edge length equal to the height.

$243 = 3h$

$81 = h$

square $\Rightarrow l = w$

it says $l = h$

so all 3 measures are the same

16) The radius and height of a cylinder are mutliplied by $\frac{2}{3}$. Describe the effect on the volume.

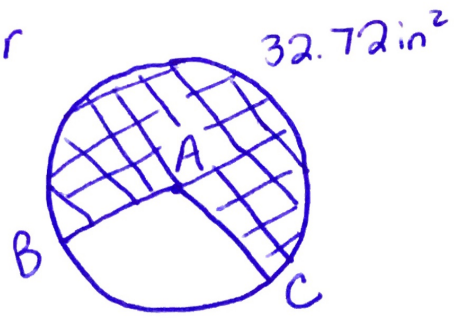
EX: $R = 6$, $H = 9$ so volume is 324π

NOW $R = \frac{2}{3}(6) = 4$, $H = \frac{2}{3}(9) = 6$ so volume is 96π

it multiplies by $\frac{8}{27}$ or $\left(\frac{2}{3}\right)^3$

remember volume = cube

17) In circle A, the area of sector BAC is 32.72 *inches*^{2} and the area of circle A is 79 *inches*^{2}. Find each of the following. Round all answers to the nearest hundredth.



radius of circle A = $79 = \pi r^2 \quad \sqrt{\frac{79}{\pi}} = r \quad 5.01 = r$

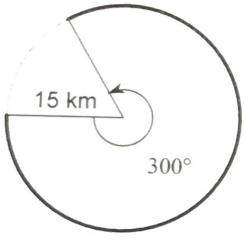
Circumference of Circle A = $2\pi(5.01) = 31.48$

$m\overset{\frown}{BC} = \frac{32.72}{79} = \frac{m\overset{\frown}{BC}}{360} \approx 149°$

length of $\overset{\frown}{BC} = \frac{x}{31.48} = \frac{149}{360}$ length of $\overset{\frown}{BC} = 13.03$

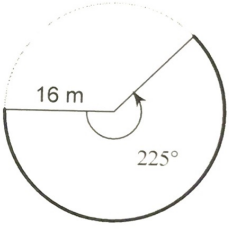
Find the length of each arc. Round your answers to the nearest tenth.

18)



25π km = 78.5

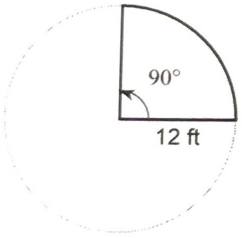
19)



20π m = 62.8

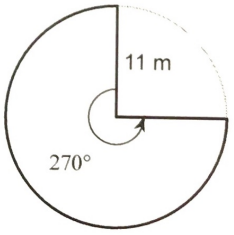
Find the area of each sector. Round your answers to the nearest tenth.

20)



113.1 ft²

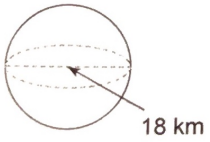
21)



285.1 m²

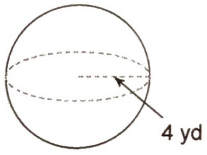
Find the surface area of each figure. Round your answers to the nearest hundredth, if necessary.

22)



1017.88 km²

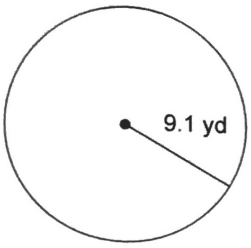
23)



201.06 yd²

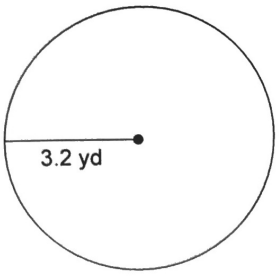
Find the area of each. Use your calculator's value of π. Round your answer to the nearest tenth.

24)



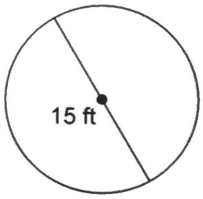
260.2 yd²

25)



32.2 yd²

26)



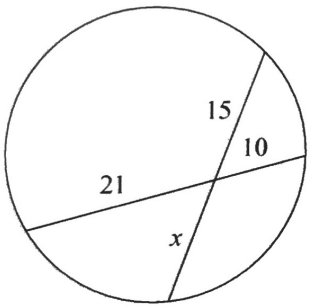
176.7 ft²

27) circumference = 45.9 ft

167.7 ft²

Solve for *x*. Assume that lines which appear tangent are tangent.

28)



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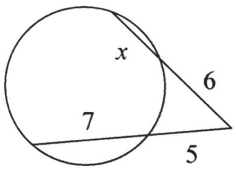
29)



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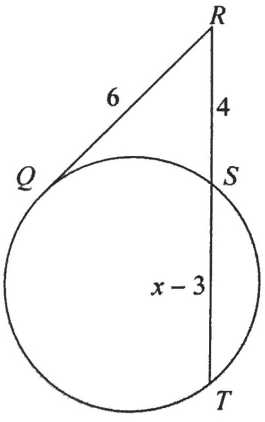
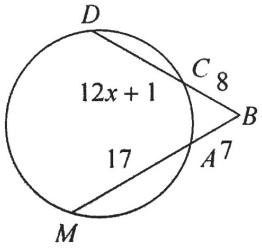
Find the measure of the line segment indicated. Assume that lines which appear tangent are tangent.

30) Find *ST* 5



31) Find *DC*



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