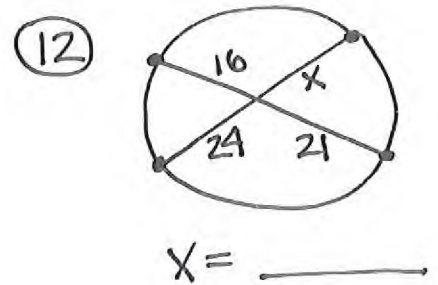
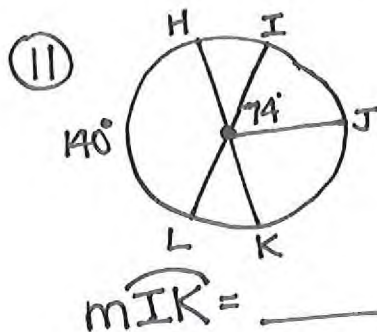
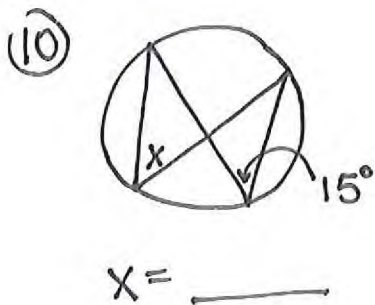
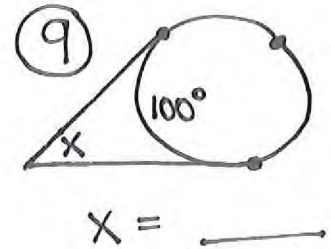
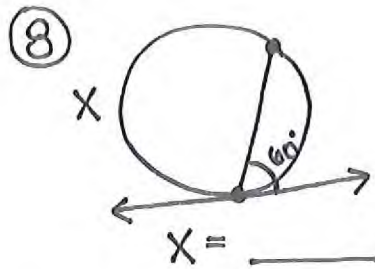
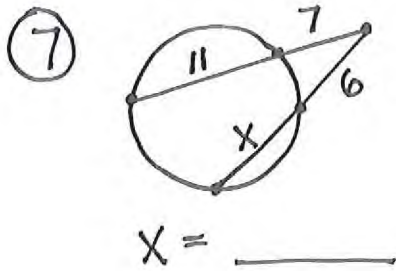
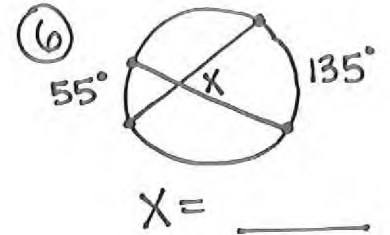
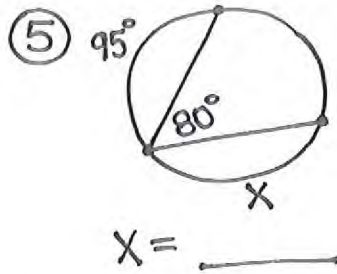
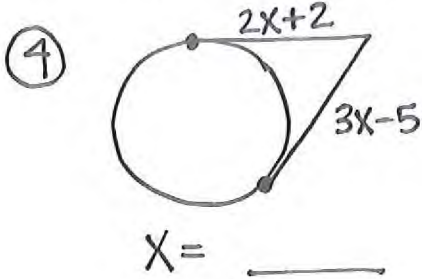
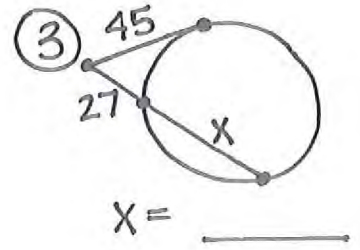
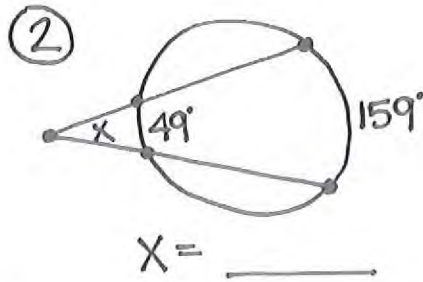
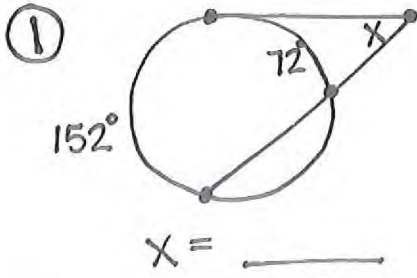
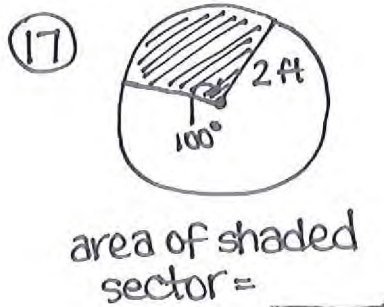
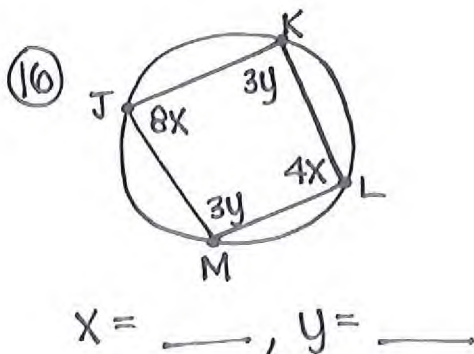
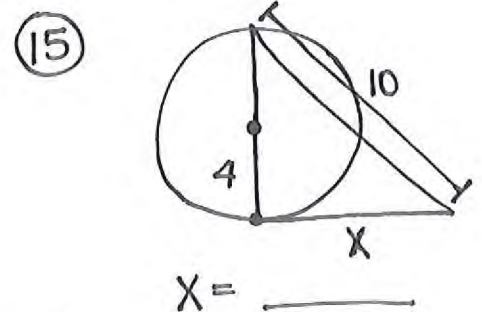
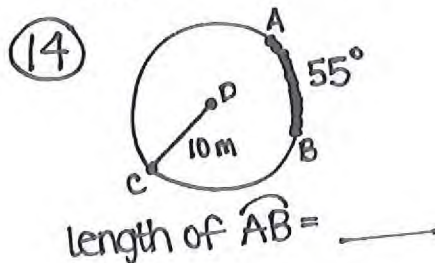


# Unit 3 Review Practice

#31

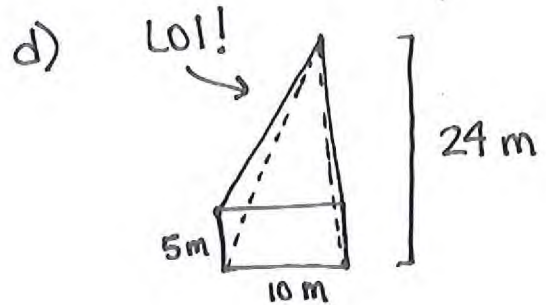
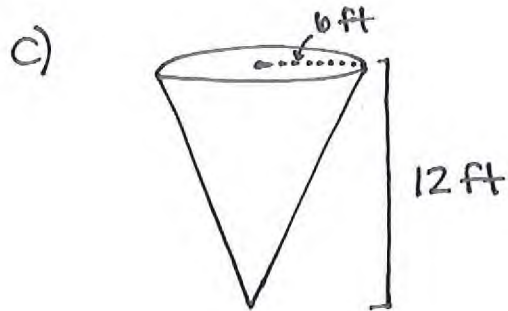
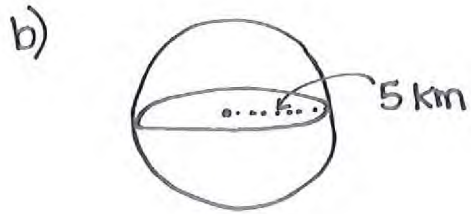
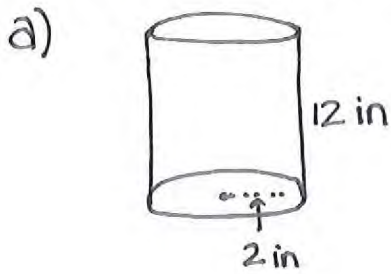


⑬ Find the radius of a circle whose area is  $16.6 \text{ mi}^2$ .



⑱ Find the circumference of a circle whose radius is 5 in.

19) Find the volume of each solid.



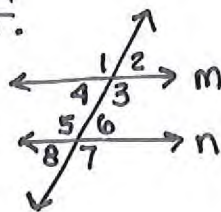
- 20) a) If the dimensions of a solid change by a factor of  $b$ , then the volume of the solid will change by a factor of \_\_\_\_.
- b) If the radius of a sphere changes by a factor of  $\frac{1}{4}$ , then the volume of the sphere will change by a factor of \_\_\_\_.

21) Complete the proof.

Given:  $m \parallel n$

Prove:  $\angle 4 \cong \angle 6$

(You do NOT know anything about alternate interior angles.)

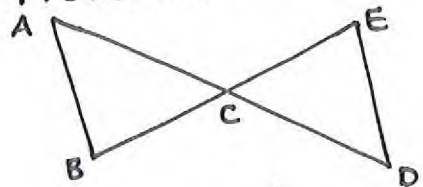


Statement	Reason

22) Complete the proof.

Given:  $AC \cong CD$ ,  $BC \cong CE$

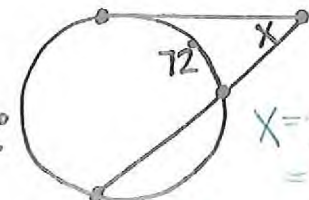
Prove:  $AB \cong DE$

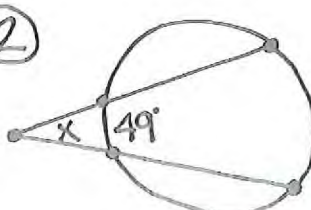


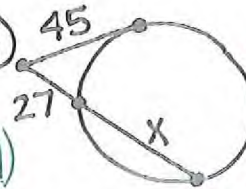
Statement	Reason

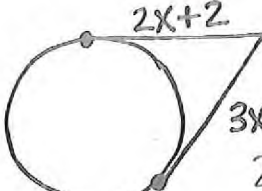


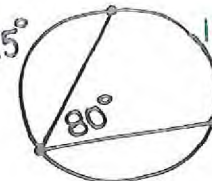
# Unit 3 Review Practice


①   $X = \frac{1}{2}(152 - 72) = \frac{1}{2}(80)$   
 $X = \underline{40}$

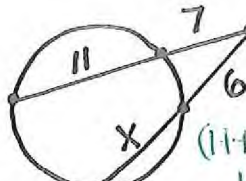
②   $X = \frac{1}{2}(159 - 49) = \frac{1}{2}(110)$   
 $X = \underline{55}$

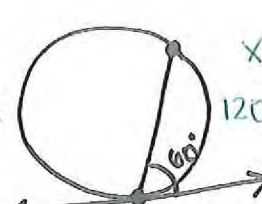
③   $45^2 = (X + 27) \cdot 27$   
 $2025 = 27X + 729$   
 $27X = 1296$   
 $X = \underline{48}$

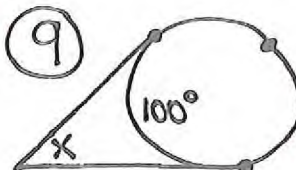
④   $2X + 2 = 3X - 5$   
 $-2X + 5 = -2X + 5$   
 $X = \underline{7}$


⑤   $X = 360 - 160 - 95$   
 $X = \underline{105}$

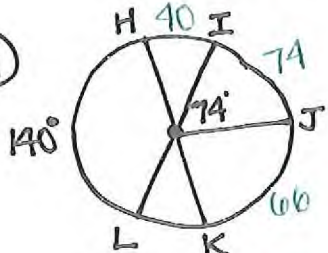
⑥   $X = \frac{1}{2}(135 + 55) = \frac{1}{2}(190)$   
 $X = \underline{95}$

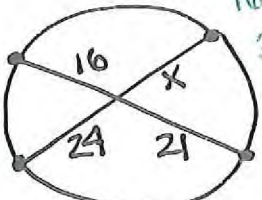
⑦   $(11 + 7) \cdot 7 = (6 + X) \cdot 6$   
 $126 = 36 + 6X$   
 $90 = 6X$   
 $X = \underline{15}$

⑧   $X = 360 - 120$   
 $X = \underline{240}$

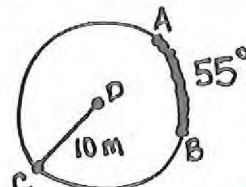
⑨   $X = \frac{1}{2}(200 - 100) = \frac{1}{2}(100)$   
 $X = \underline{80}$

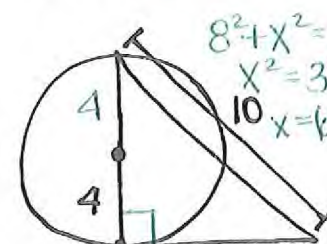
⑩   $X = \underline{15}$

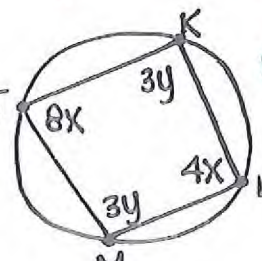
⑪   $m\widehat{IK} = \underline{140}$   
*IL & HK are diameters*

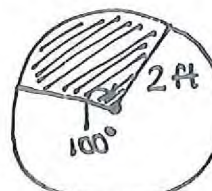
⑫   $16 \cdot 21 = 24X$   
 $336 = 24X$   
 $14 = X$   
 $X = \underline{14}$

⑬ Find the radius of a circle whose area is  $16.6 \text{ mi}^2$ .  
 $A = \pi r^2$   
 $\frac{16.6}{\pi} = \frac{\pi r^2}{\pi} \rightarrow 5.28 = r^2$   
 $\sqrt{5.28} = \sqrt{r^2}$   
 $(2.3 = r)$

⑭   $\frac{55}{360} \cdot 2 \cdot \pi \cdot 10$   
 length of  $\widehat{AB} = \underline{9.6}$

⑮   $8^2 + X^2 = 10^2$   
 $X^2 = 36$   
 $X = 6$   
 $X = \underline{6}$

⑯   $8x + 4x = 180$   
 $12x = 180$   
 $x = 15$   
 $3y + 3y = 180$   
 $6y = 180$   
 $y = 30$   
 $X = \underline{15}, y = \underline{30}$

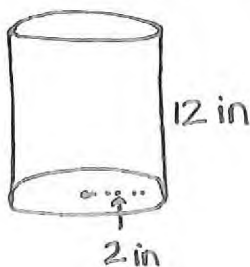
⑰   $\frac{100}{360} \cdot \pi \cdot 2^2$   
 area of shaded sector =  $\underline{3.5}$

⑱ Find the circumference of a circle whose radius is 5 in.  
 $C = 2\pi r$   
 $= 2 \cdot \pi \cdot 5$   
 $C = \underline{(31.4)}$



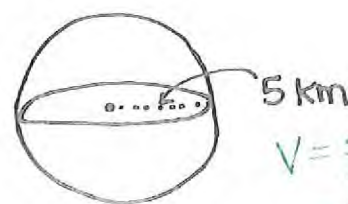
19) Find the volume of each solid.

a)



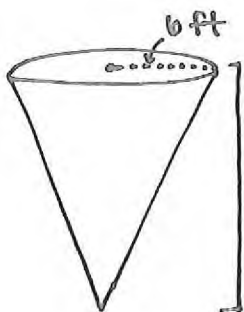
$$\begin{aligned} V &= Bh \\ &= \pi r^2 h \\ &= \pi \cdot 2^2 \cdot 12 \\ &= \boxed{150.8} \end{aligned}$$

b)



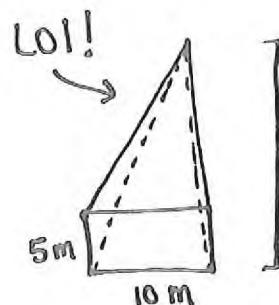
$$\begin{aligned} V &= \frac{4}{3} \pi r^3 \\ &= \frac{4}{3} \pi \cdot 5^3 \\ &= \boxed{523.6} \end{aligned}$$

c)



$$\begin{aligned} V &= \frac{1}{3} Bh \\ &= \frac{1}{3} \pi r^2 h \\ 12 \text{ ft} &= \frac{1}{3} \pi \cdot 6^2 \cdot 12 \\ &= \boxed{452.4} \end{aligned}$$

d)



$$\begin{aligned} V &= \frac{1}{3} Bh \\ &= \frac{1}{3} (l \cdot w) \cdot h \\ 24 \text{ m} &= \frac{1}{3} (5 \cdot 10) \cdot 24 \\ &= \boxed{400} \end{aligned}$$

20) a) If the dimensions of a solid change by a factor of 6, then the volume of the solid will change by a factor of 216.

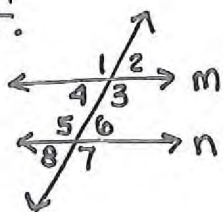
b) If the radius of a sphere changes by a factor of  $\frac{1}{4}$ , then the volume of the sphere will change by a factor of  $\frac{1}{64}$ .

21) Complete the proof.

Given:  $m \parallel n$

Prove:  $\angle 4 \cong \angle 6$

(You DO NOT KNOW anything about alternate interior angles.)

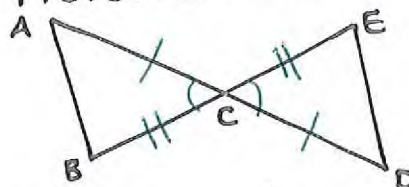


Statement	Reason
$m \parallel n$	Given
$\angle 4 \cong \angle 2$	Vertical Ang Thm
$\angle 2 \cong \angle 6$	Corresponding Ang Thm
$\angle 4 \cong \angle 6$	Transitive Prop

22) Complete the proof.

Given:  $AC \cong CD$ ,  $BC \cong CE$

Prove:  $AB \cong DE$



Statement	Reason
$AC \cong CD$	Given
$BC \cong CE$	Given
$\angle ACB \cong \angle DCE$	Vertical Ang Thm
$\triangle ABC \cong \triangle DEC$	SAS congruence thm
$AB \cong DE$	CPCTC