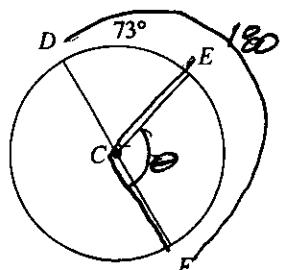


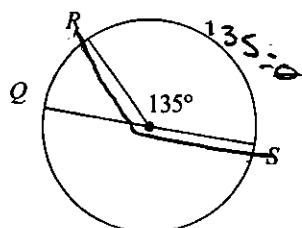
Circles Review**Find the measure of the arc or central angle indicated..**

1) $m\angle ECF \approx 107^\circ$

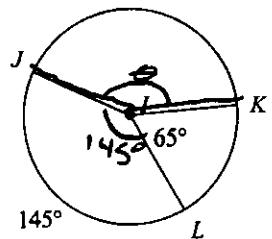


$180 - 73 = 107$

2) $m\widehat{RSQ} = 135^\circ$

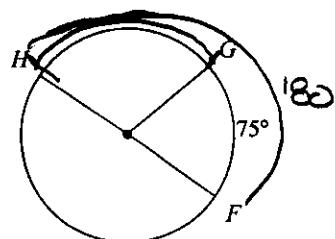
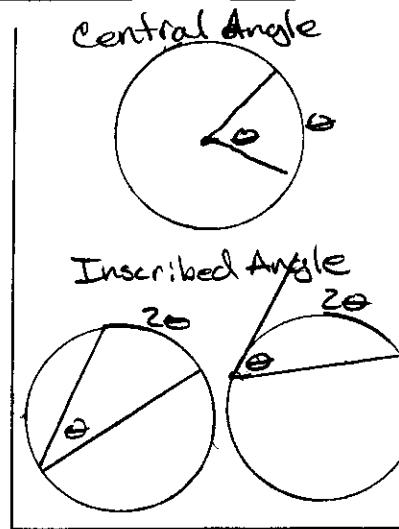
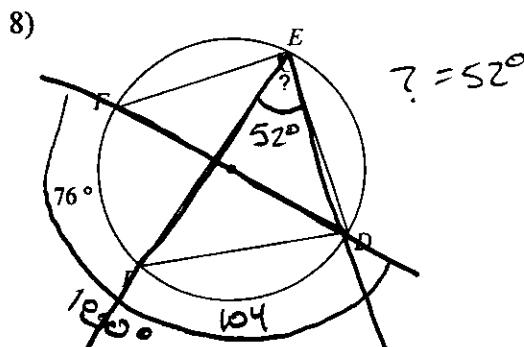
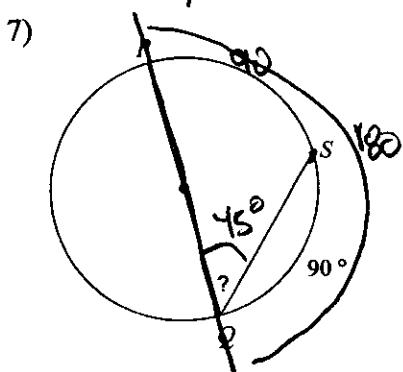
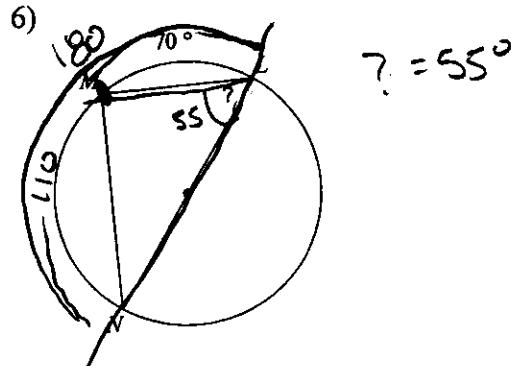
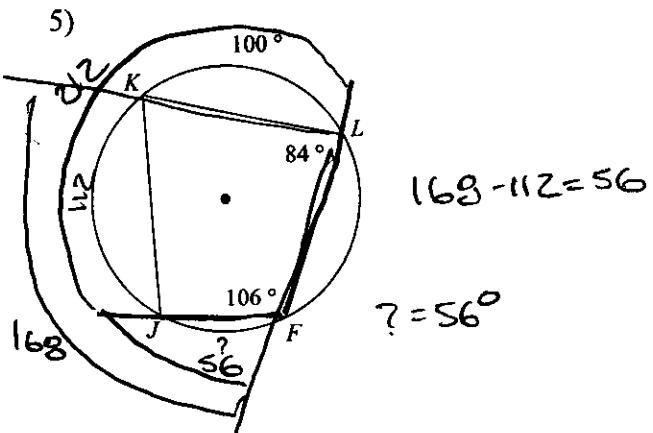


3) $m\angle JIK \approx 150^\circ$



$180 - 75 = 105$

4) $m\widehat{HG} = 105^\circ$

**Find the measure of the arc or angle indicated.**

Convert each degree measure into radians.

$$9) 285^\circ \cdot \frac{\pi}{180} = \frac{285}{180}\pi = \frac{19}{12}\pi$$

$$10) 135^\circ \cdot \frac{\pi}{180} = \frac{135}{180}\pi = \frac{3}{4}\pi$$

$$11) 210^\circ \cdot \frac{\pi}{180} = \frac{210}{180}\pi = \frac{7}{6}\pi$$

$$12) 250^\circ \cdot \frac{\pi}{180} = \frac{250}{180}\pi = \frac{25}{18}\pi$$

Convert each radian measure into degrees.

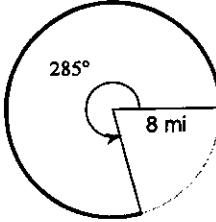
$$13) \frac{\pi}{12} = \frac{180}{12} = 15^\circ$$

$$14) \frac{2\pi}{9} = \frac{2(180)}{9} = 40^\circ$$

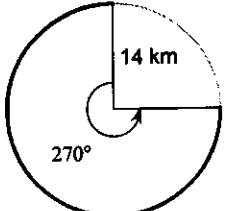
$$15) \frac{5\pi}{6} = \frac{5(180)}{6} = 150^\circ$$

$$16) \frac{4\pi}{3} = \frac{4(180)}{3} = 240^\circ$$

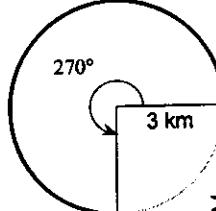
Find the length of each arc. Write answers in exact and approximate forms.

17) 

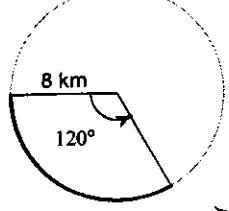
- 1) $C = 2\pi(8) = 16\pi$
- 2) $\frac{285}{360} = \frac{19}{24}$
- 3) $C_s = \frac{19}{24} \cdot 16\pi = \frac{38}{3}\pi \text{ mi}$
 $C_s \approx 39.8 \text{ mi}$

18) 

- 1) $C = 2\pi(14) = 28\pi$
- 2) $\frac{270}{360} = \frac{3}{4}$
- 3) $C_s = \frac{3}{4} \cdot 28\pi = 21\pi \text{ km}$
 $C_s \approx 65.94 \text{ km}$

19) 

- 1) $C = 2\pi(3) = 6\pi$
- 2) $\frac{270}{360} = \frac{3}{4}$
- 3) $C_s = \frac{3}{4} \cdot 6\pi = \frac{9}{2}\pi \text{ km}$
 $C_s \approx 14.13 \text{ km}$

20) 

- 1) $C = 2\pi(8) = 16\pi$
- 2) $\frac{120}{360} = \frac{1}{3}$
- 3) $C_s = \frac{1}{3} \cdot 16\pi = \frac{16}{3}\pi \text{ km}$
 $C_s \approx 16.75 \text{ km}$

21)

- 1) $C = 2\pi(11) = 22\pi$
- 2) $\frac{7\pi}{6} = \frac{7(180)}{360}$
 $= \frac{7}{12}$
- 3) $C = \frac{7}{12} \cdot 22\pi = \frac{77}{6}\pi \text{ km}$
 $C \approx 40.30 \text{ km}$

22)

- 1) $C = 2\pi(11) = 22\pi$
- 2) $\frac{4\pi}{3} = \frac{4(180)}{360}$
 $= \frac{2}{3}$
- 3) $C = \frac{2}{3} \cdot 22\pi = \frac{44}{3}\pi$
 $C \approx 46.05 \text{ yds.}$

Find the area of each sector. Write answers in exact and approximate forms.

23)

- 1) $A = \pi(11)^2 = 121\pi$
- 2) $\frac{270}{360} = \frac{3}{4}$
- 3) $A_s = \frac{3}{4} \cdot 121\pi = \frac{363}{4}\pi \text{ ft}^2$
 $A_s \approx 284.96 \text{ ft}^2$

24)

- 1) $A = \pi(12)^2 = 144\pi$
- 2) $\frac{90}{360} = \frac{1}{4}$
- 3) $A_s = \frac{1}{4} \cdot 144\pi = 36\pi \text{ in}^2$
 $A_s \approx 113.04 \text{ in}^2$

25)

- 1) $A = \pi(12)^2 = 144\pi$
- 2) $\frac{255}{360} = \frac{17}{24}$
- 3) $A_s = \frac{17}{24} \cdot 144\pi = 102\pi \text{ ft}^2$
 $A_s \approx 320.28 \text{ ft}^2$

26)

- 1) $A = \pi(4)^2 = 16\pi$
- 2) $\frac{135}{360} = \frac{3}{8}$
- 3) $A_s = \frac{3}{8} \cdot 16\pi = 6\pi \text{ km}^2$
 $A_s \approx 18.84 \text{ km}^2$

27)

- 1) $A = \pi(12)^2 = 144\pi$
- 2) $\frac{7\pi}{4} = \frac{7(180)}{360}$
 $= \frac{7}{8}$
- 3) $A_s = \frac{7}{8} \cdot 144\pi = 126\pi \text{ km}^2$
 $A_s \approx 395.64 \text{ km}^2$

28)

- 1) $A = \pi(12)^2 = 144\pi$
- 2) $\frac{4\pi}{3} = \frac{4(180)}{360}$
 $= \frac{2}{3}$
- 3) $A_s = \frac{2}{3} \cdot 144\pi = 96\pi \text{ ft}^2$
 $A_s \approx 301.44 \text{ ft}^2$

Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.

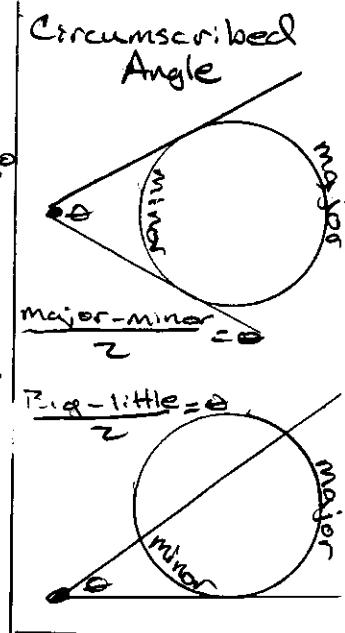
29)

$$\begin{aligned} &? - 69 = 45 \cdot x \\ &\frac{? - 69}{2} = 45 \cdot x \\ &? - 69 = 90 \\ &\frac{+69 +69}{2} = 90 \\ &? = 159^\circ \end{aligned}$$

$m\widehat{PU} = 159^\circ$

30)

$$\begin{aligned} &m\widehat{EG} = 55^\circ \\ &175^\circ - \frac{175 - ?}{2} = 60 \cdot x \\ &175 - ? = 120 \\ &? = 55 \end{aligned}$$



31)

$$\begin{aligned} &\frac{207 - 67}{2} = \theta \\ &\frac{140}{2} = \theta \\ &70 = \theta \end{aligned}$$

$m\angle R = 70^\circ$

32)

$$\begin{aligned} &? = 130^\circ \\ &m\widehat{DE} = 130^\circ \end{aligned}$$

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

33)

$$x \cdot \frac{169 - 81x}{2} = 44 \cdot 2$$

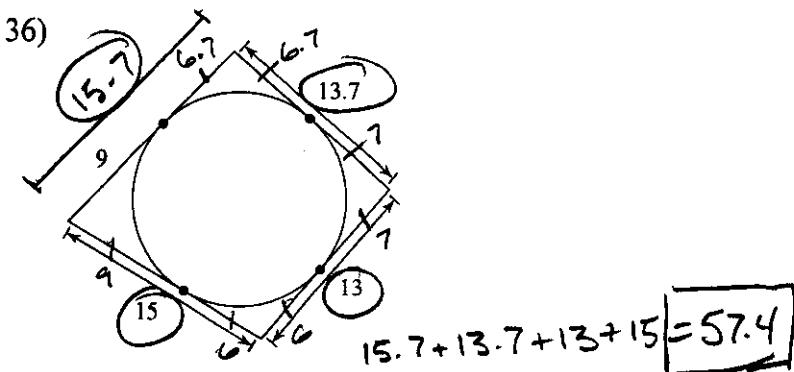
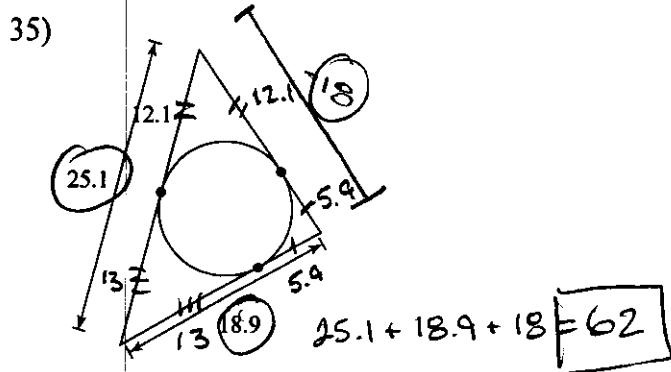
$$\begin{aligned} &169 - 81x = 88 \\ &-169 \quad -169 \\ &-81x = -81 \\ &\boxed{x = 1} \end{aligned}$$

34)

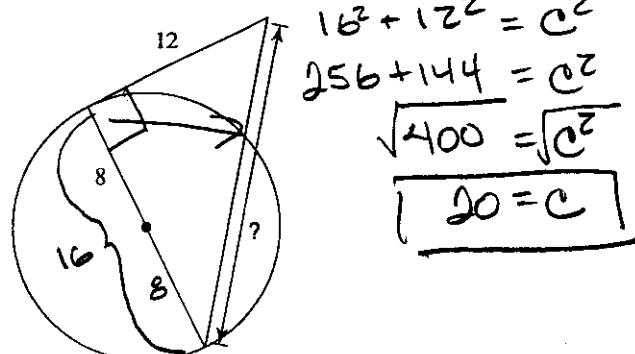
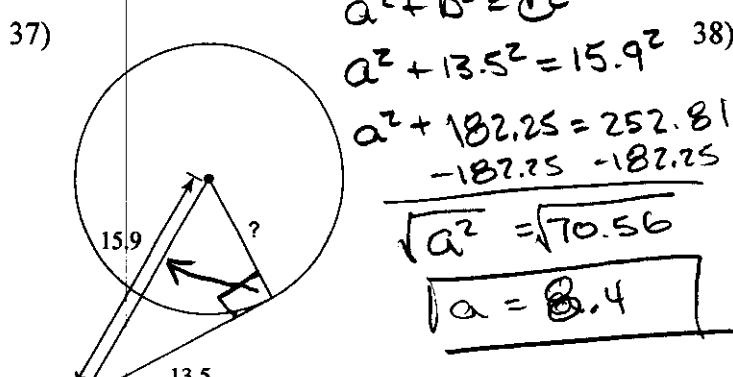
Hint: $259 + 101 = 360$

$$\begin{aligned} &? = 259 \\ &x \cdot \frac{259 - 101}{2} = 15x + 4 \cdot 2 \\ &259 - 101 = 2(15x + 4) \\ &158 = 30x + 8 \\ &-8 \quad -8 \\ &\frac{150}{30} = \frac{30x}{30} \\ &\boxed{x = 5} \end{aligned}$$

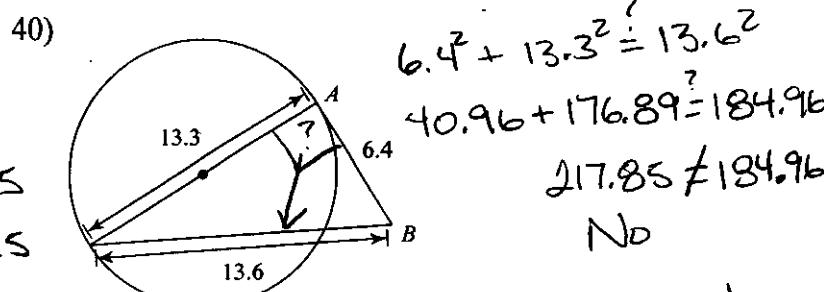
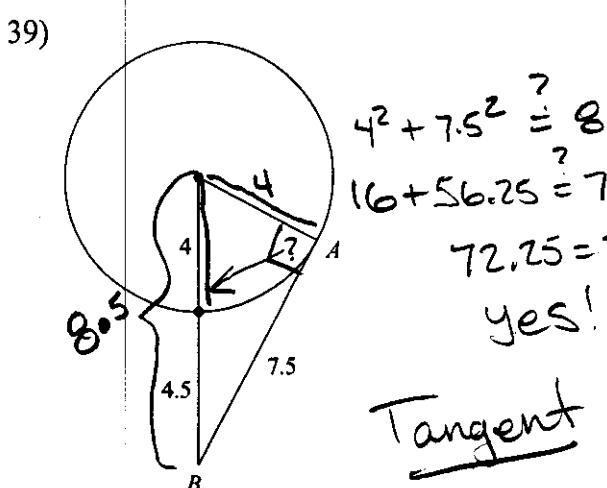
Find the perimeter of each polygon. Assume that lines which appear to be tangent are tangent.



Find the segment length indicated. Assume that lines which appear to be tangent are tangent.

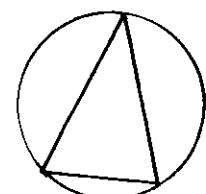


Determine if line AB is tangent to the circle.



Not Tangent

41) Draw a triangle INSCRIBED in a circle.



42) Draw a square CIRCUMSCRIBED about a circle.

