

10-1 Circles, Circumference, Area

Find the circumference AND area of the circle. Give answers as exact AND rounded to hundredths.

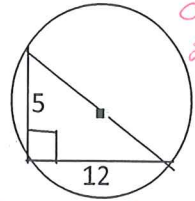
1. $r = 8 \text{ cm}$

$C = 50.24 \text{ cm}$ $A = 200.96 \text{ cm}^2$

2. $r = 10 \text{ in}$

$C = 62.8 \text{ in}$ $A = 314 \text{ in}^2$

3.



$a^2 + b^2 = c^2$
 $25 + 144 = c^2$
 $169 = c^2$
 $13 = c$

$C = 40.82$ $A = 732.7$

Find the radius and diameter

4. $C = 8.7 \text{ in}$

$\frac{8.7}{\pi} = \frac{\pi \cdot d}{\pi}$

$2.77 = d$

$1.39 = r$

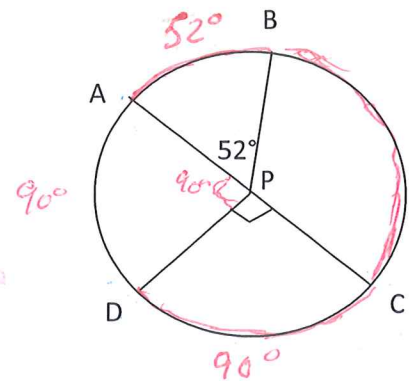
10-2 Angles and Arcs

Circle correct answer

1. Arc DAC is a major minor semicircle arc.
2. Arc BC is a major minor semicircle arc.
3. Arc ADC is a major minor semicircle arc.

Fill in correct answer

4. Name the central angle to arc AB $\angle APB$
5. Name the radii shown $\overline{AP}, \overline{BP}, \overline{CP}, \overline{DP}$
6. Name the diameter shown \overline{AC}



90
 90
 128
 232

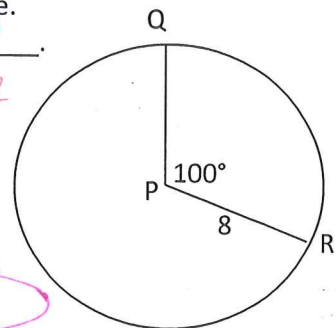
 360
 -232
 128

Find the following arc measures

- | | | |
|----------------------------------|------------------------------------|------------------------------------|
| 7. $m \text{ arc AB}$ <u>52</u> | 10. $m \text{ arc DAC}$ <u>270</u> | 13. $m \text{ arc DCB}$ <u>218</u> |
| 8. $m \text{ arc BC}$ <u>128</u> | 11. $m \text{ arc CD}$ <u>90</u> | 14. $m \text{ arc BDA}$ <u>309</u> |
| 9. $m \text{ arc DB}$ <u>142</u> | 12. $m \text{ arc ADC}$ <u>180</u> | |

15. The measure of a minor arc is equal to the measure of its central angle.
16. The measure of a major arc is greater than 180° and less than 360°.

17. a. Find the length of Arc QR in circle P. $\frac{100}{360} = \frac{l}{2\pi(8)}$ $\frac{5,024}{360} = l$



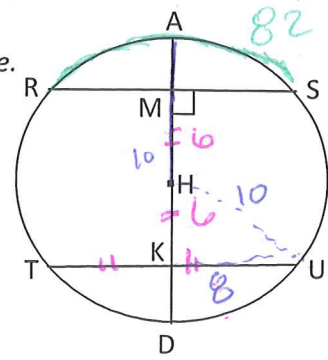
b. Find the area of the sector enclosed by Angle QPR. $\frac{100}{360} = \frac{l}{50.24}$
 $A = \pi \cdot r^2 = \pi \cdot 8^2 = 200.96$
 $\frac{100}{360} = 55.82$

10-3 Arcs and Chords

1. If a radius is \perp to a chord, then it Bisects the chord and its arc.
2. Two chords are \cong if they are equidistant from the center.

Circle H's radius=10, $m \text{ arc RS} = 82$, and $\overline{MH} \cong \overline{HK} = 6$. Find each measure.

- | | |
|---------------------------------|---------------------------------|
| 1. TU <u>16</u> | 5. $m \text{ arc TD}$ <u>41</u> |
| 2. TK <u>8</u> | 6. $m \text{ arc DU}$ <u>41</u> |
| 3. MS <u>8</u> | 7. $m \text{ arc AS}$ <u>41</u> |
| 4. $m \text{ arc AR}$ <u>41</u> | 8. $m \angle HKU$ <u>90°</u> |



Circle P has a diameter of 40 cm and $AC = FD = 24$. Find each measure.

1. $PA = 20$
2. $PE = 20$
3. $HE = 4$
4. $AG = 12$
5. $PH = 16$
6. $FG = 16 + 20 = 36$

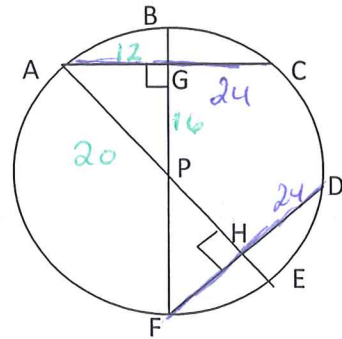
$$a^2 + b^2 = c^2$$

$$144 + b^2 = 400$$

$$\sqrt{b^2} = \sqrt{256}$$

$$b = 16$$

$$20 - 16 = 4$$



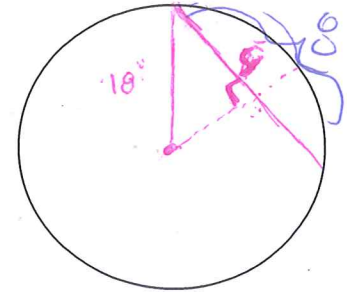
7. A radius of a circle is 18 inches long and a chord is 8 inches long. What is the distance from the center of the circle to the chord? Draw a picture in the circle provided.

$$a^2 + b^2 = c^2$$

$$16 + b^2 = 324$$

$$b^2 = 308$$

$$b = 17.5$$



Find the measure of each arc of a circle circumscribed about a polygon.

8. An equilateral triangle

9. A regular pentagon

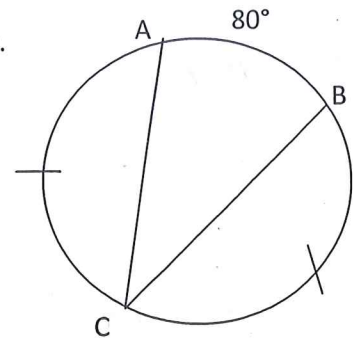
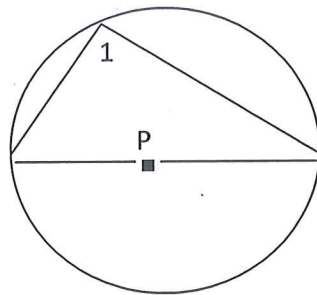
$$\frac{360}{3} = 120^\circ$$

$$\frac{360}{5} = 72^\circ$$

10-4 Inscribed Angles

An inscribed angle measure is $\frac{1}{2}$ of the measure of its intercepted arc.

1. $m\angle ACB = 40^\circ$
2. $m\angle 1 = 90^\circ$
3. $m \text{ arc } BC = 140^\circ$



If a quadrilateral is inscribed in a circle, then its opposite angles are

Supplementary

Quadrilateral RSTU is inscribed in circle P. $m \text{ arc } STU = 220$ and $m\angle S = 95$.

Find each measure.

1. $m\angle R = \frac{1}{2} \cdot 220 = 110$
2. $m\angle U = 180 - 95 = 85$
3. $m \text{ arc } RUT = 95 \cdot 2 = 190$
4. $m\angle T = 180 - 110 = 70$
5. $m \text{ arc } SRU = 70 \cdot 2 = 140$
6. $m \text{ arc } RST = 85 \cdot 2 = 170$

