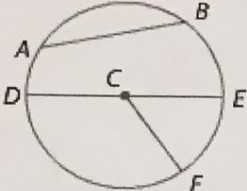
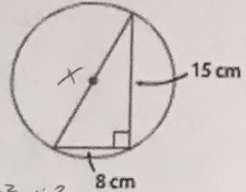
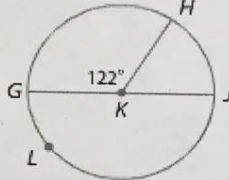


10.1, 10.2, 10.4 Reference Sheet

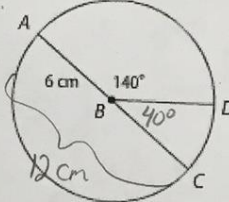
10.1 Circles and Circumference (& area)

	Radii: <u>\overline{CF}, \overline{CE}, \overline{CD}</u> Diameter: <u>\overline{DE}</u> Chords: <u>\overline{AB}, \overline{DE}</u>	<p>Circumference (distance around circle) & Area Formulas EX: Find the circumference & area of the circle shown.</p> <p>$C = \pi d$ or $C = 2\pi r$ $C = 17\pi$ cm</p> <p>$A = \pi r^2$ $r = \frac{17}{2}$ $A = \pi \left(\frac{17}{2}\right)^2$ $A = \frac{289\pi}{2}$ cm²</p>
$r = \frac{d}{2}$ $d = 2r$	 <p style="text-align: center;"> $8^2 + 15^2 = x^2$ $64 + 225 = x^2$ $289 = x^2$ $x = 17$ </p>	

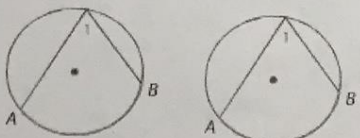
10.2 Measuring Angles and Arcs

<p>Minor Arc: $< 180^\circ$ Example: <u>\widehat{HJ}</u></p> <p>Semicircle: $= 180^\circ$ Example: <u>\widehat{GKJ}</u></p> <p>Major Arc: $> 180^\circ$ Example: <u>\widehat{LHJ}</u></p>		<p>Central Angles: Vertex is center Sum of all central \angles = 360°</p> <p>$m\angle ABC = m\widehat{AC}$</p>
---	---	--

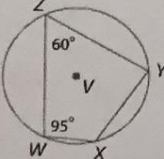
Arc Length Formula

$\frac{\text{arc length}}{\text{circumference}} = \frac{\text{arc measure}}{360^\circ}$		<p>EX: Find the length of \widehat{DC}.</p> $\frac{x}{12\pi} = \frac{40}{360}$ $\frac{360x}{360} = \frac{480\pi}{360}$ <p style="text-align: center;">$x \approx 4.2$ cm</p>
---	---	---

10.4 Inscribed Angles

<p>Inscribed Angles: Vertex is on the circle</p> <p>$m\angle 1 = \frac{1}{2} m\widehat{AB}$</p> <p>or</p> <p>$m\widehat{AB} = 2 m\angle 1$</p>		<p>Two inscribed angles that intercept the same arc of a circle are congruent.</p> <p>EX: Find the value of x.</p> $3x - 5 = 2x + 15$ <p style="text-align: center;">$x = 20$</p>
---	---	---

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

	<p>EX: Find $m\angle X$ and $m\angle Y$.</p> $m\angle X = 180 - 60 = 120^\circ$ $m\angle Y = 180 - 95 = 85^\circ$
---	--

Mixed Practice

1. Given the diameter of a circle is 24 cm. Find each of the following. Give the exact answer.

Radius = 12 cm

Circumference = 24π cm

Area = $(12)^2\pi = 144\pi$ cm²

2. Given the circumference of a circle is $\frac{3}{2}\pi$ ft. Find each of the following. Give the exact answer.

Diameter = $\frac{3}{2}$ ft $\frac{3}{2} \div 2 = \frac{3}{4}$

Radius = $\frac{3}{4}$ ft

Area = $(\frac{3}{4})^2\pi = \frac{9}{16}\pi$ ft²

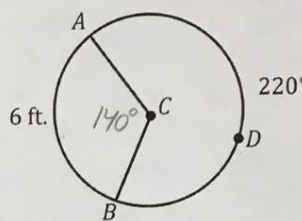
3. The diameter of a circle is 12 inches. Find the exact length of the semicircle.

$$\frac{x}{12\pi} = \frac{180}{360}$$

$$\frac{360x}{360} = \frac{(2160\pi)}{360}$$

$$x = 6\pi \text{ in}$$

4. Find the diameter of circle C. Round to the nearest tenth.



$$\frac{6}{C} = \frac{140}{360}$$

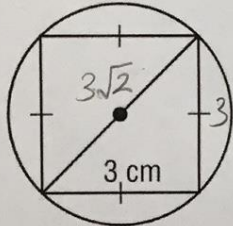
$$2160 = 140C$$

$$C = 15.43$$

$$15.42 = \pi d$$

$$d = 4.9 \text{ ft}$$

5. Find the exact circumference of the circle below.



$$3^2 + 3^2 = d^2$$

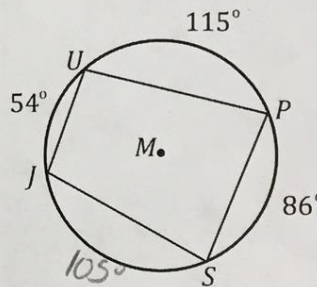
$$9 + 9 = d^2$$

$$\sqrt{18} = \sqrt{d^2}$$

$$d = 3\sqrt{2}$$

$$C = 3\sqrt{2}\pi \text{ cm}$$

6. Given $\odot M$, find each of the following measures.



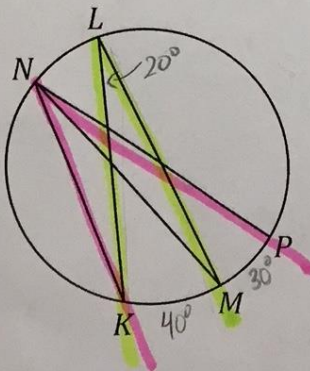
$$m\angle J = 100.5^\circ$$

$$m\angle U = 95.5^\circ$$

$$m\angle P = 79.5^\circ$$

$$m\angle S = 84.5^\circ$$

7. If $m\angle KLM = 20^\circ$ and $m\widehat{MP} = 30^\circ$, what is $m\angle KNP$?



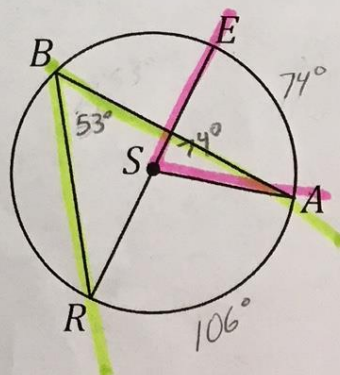
A. 25°

B. 35°

C. 50°

D. 70°

8. In $\odot S$, $m\angle ESA = 74^\circ$. What is $m\angle RBA$?



A. 37°

B. 53°

C. 74°

D. 106°