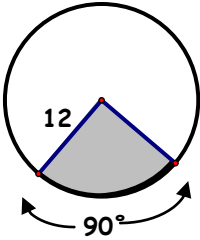
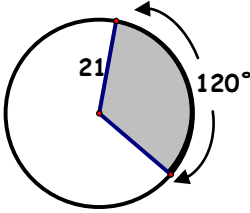
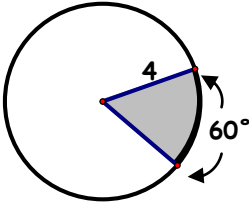
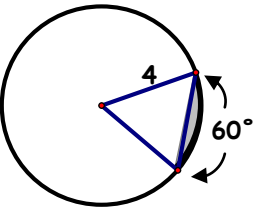
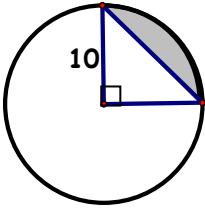
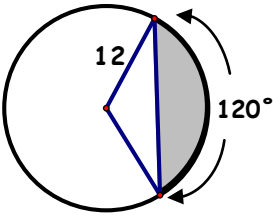
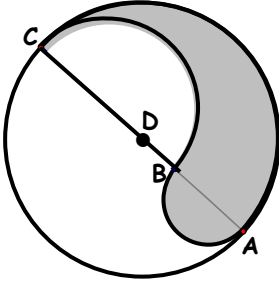


Find the shaded area. On problems 1-3, find the arc length for the shaded sector also.

<p>1. $A_{\text{sector}} =$ _____ Arc length = _____</p> 	<p>2. $A_{\text{sector}} =$ _____ Arc length = _____</p> 	<p>3. $A_{\text{sector}} =$ _____ Arc length = _____</p> 
<p>4. $A_{\text{segment}} =$ _____</p> 	<p>5. $A_{\text{segment}} =$ _____</p> 	<p>6. $A_{\text{segment}} =$ _____</p> 
<p>7. If $BC = 2AB$, what fraction of the circle is shaded? (Hint: Let the $AB = 2x$. D is the center of the big circle. AB is the diameter of a little circle and BC is the diameter of a medium circle. Find the areas in terms of x.)</p> 		
<p>8. Find the degree measure of the arc of a sector with area 36π if the area of the circle is 144π.</p>		
<p>9. Two circles have radii 3 cm. and 5 cm. Find the ratio of their areas.</p>	<p>10. The areas of two circles are in the ratio 16 to 9. Find the ratio of their radii.</p>	

Answers:

1. Area = $36\pi u^2$ and arc length = $6\pi u$
2. Area = $147\pi u^2$ and arc length = $14\pi u$
3. Area = $8\pi/3 u^2$ and arc length = $4\pi/3 u$
4. $\left(\frac{8}{3}\pi - 4\sqrt{3}\right)u^2$
5. $(25\pi - 50)u^2$
6. $(48\pi - 36\sqrt{3})u^2$
7. $\frac{1}{3}$
8. 90°
9. $\frac{9}{25}$
10. $\frac{4}{3}$