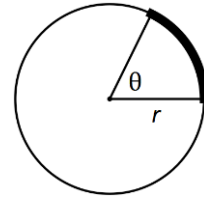


Date:

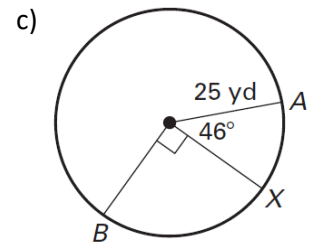
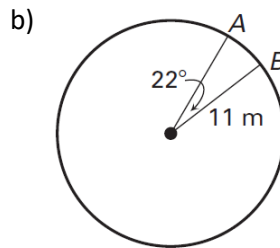
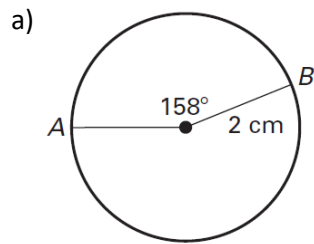
Section: 12.3

Objective: Arc length, sector area, more tangent & chord theorems

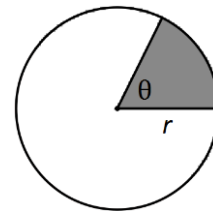
Arc Length:
$$\text{Arc Length} = \frac{\theta}{360^\circ} \cdot \text{circumference of circle} = \frac{\theta}{360^\circ} \cdot 2\pi r$$



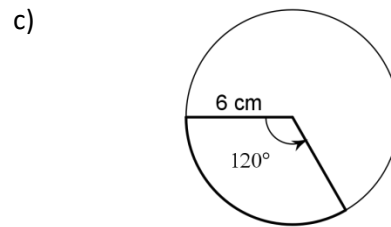
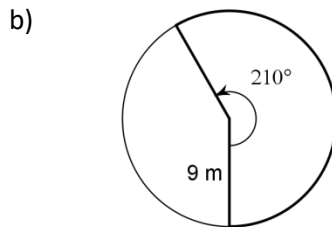
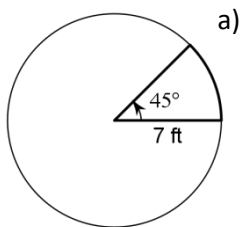
Examples: Find the length of AB . Write your answers in terms of π and as decimals rounded to the nearest hundredth.



Sector Area:
$$\text{Sector Area} = \frac{\theta}{360^\circ} \cdot \text{area of circle} = \frac{\theta}{360^\circ} \cdot \pi r^2$$

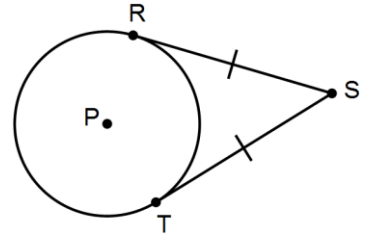


Examples: Find the area of each sector. Write your answers in terms of π and as decimals rounded to the nearest tenth.

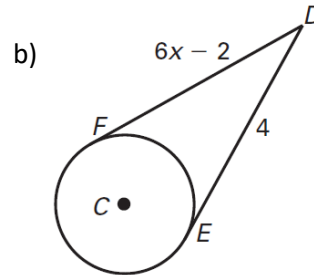
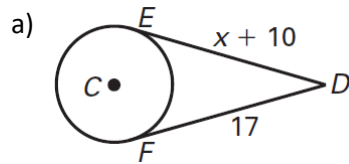


Theorem: If two segments from the same point outside a circle are both tangent to the circle, then they are congruent.

If \overline{SR} and \overline{ST} are tangent to $\odot P$ at points R and T , then $\overline{SR} \cong \overline{ST}$.

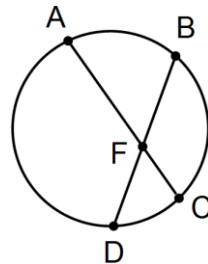


Examples: \overline{DE} and \overline{DF} are both tangent to $\odot C$. Find the value of x .



Theorem: two chords intersect inside a circle, then the product of the lengths of the segments of one chord is equal to the product of the lengths of the segments of the other chord.

$$AF \cdot FC = BF \cdot FD$$



Examples: Find the value of x .

