

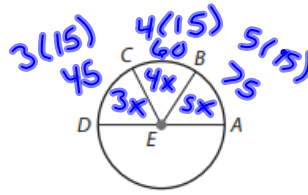
Bell Work pg. 790

23. In circle E , the measures of $\angle DEC$, $\angle CEB$, and $\angle BEA$ are in the ratio 3:4:5. Find $m\widehat{AC}$.

$$3x + 4x + 5x = 180$$

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

$$x = 15$$



$$\widehat{AC} = 135$$

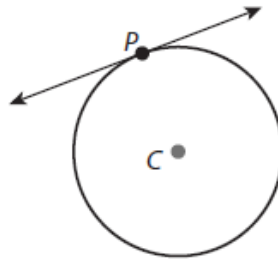
15.3 Tangents and Circumscribed Angles

What are the key theorems about tangents to a circle?

Tangent- a line in the same plane as a circle that intersects the circle in exactly **one point**

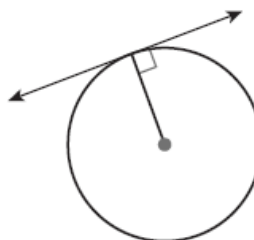
Point of tangency- the point where a tangent and a circle intersect

The line is tangent to circle C and point P is the point of tangency.

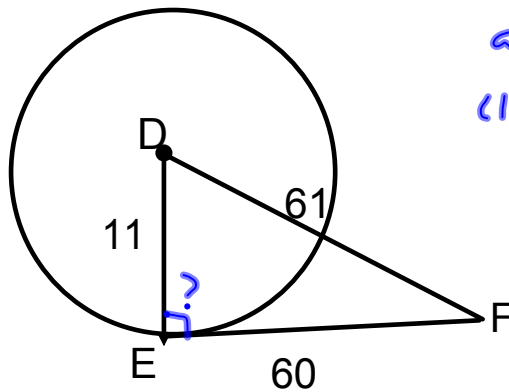


Tangent-Radius Theorem:

If a line is tangent to a circle, then it is perpendicular to a radius drawn to the point of tangency

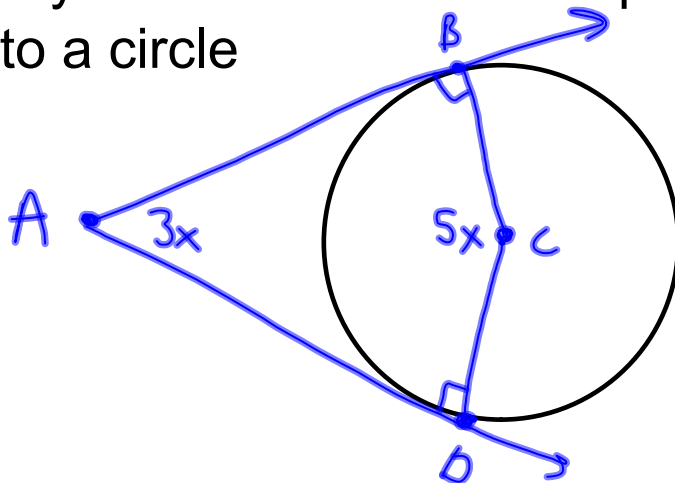


Example: Is EF tangent to Circle D?



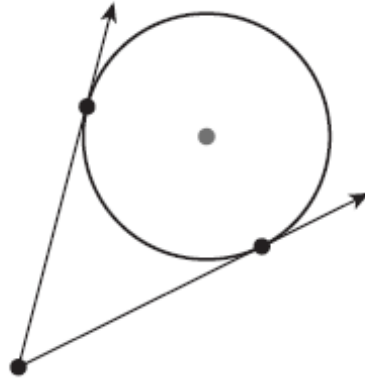
$$a^2 + b^2 = c^2$$
$$(11)^2 + (60)^2 \stackrel{?}{=} (61)^2$$
$$3,721 = 3,721$$

Circumscribed Angle- an angle formed by 2 rays from a common endpoint that are tangent to a circle



Circumscribed Angle Theorem

A circumscribed angle of a circle and its associated central angle are supplementary.



XA and XB are tangent lines to Circle C. Find $m\angle X$.

