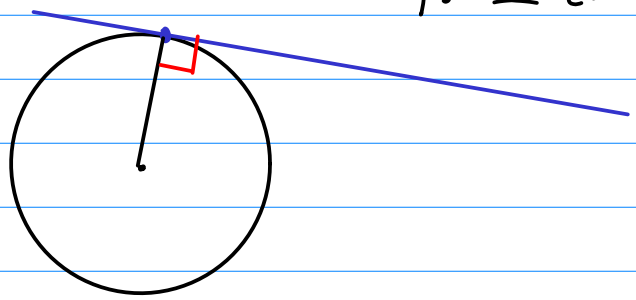
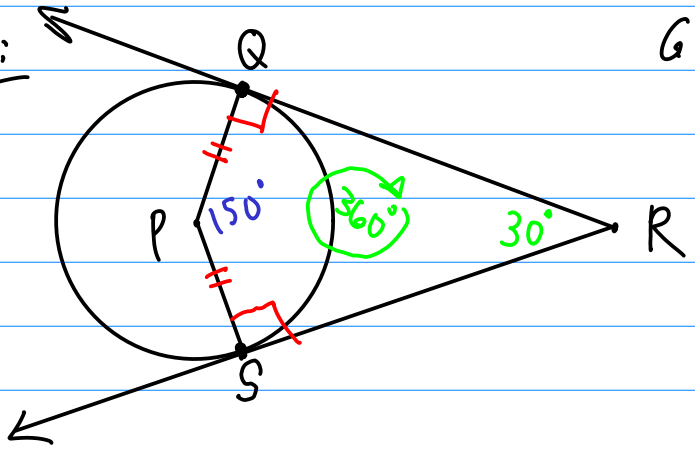
§6.1: Properties of Tangents

* **Tangent Conjecture:** A radius drawn to the pt of tangency is ⊥ to the tangent.



Ex:



Given: $m\angle P = 150^\circ$

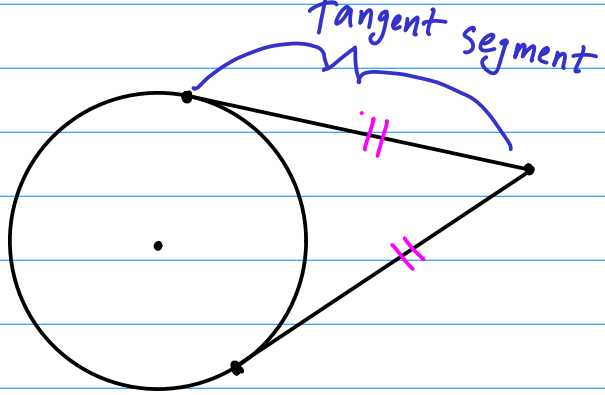
$\overrightarrow{RQ}$ is tangent to $\odot P$ @ Q

$\overrightarrow{RS}$ " " @ S

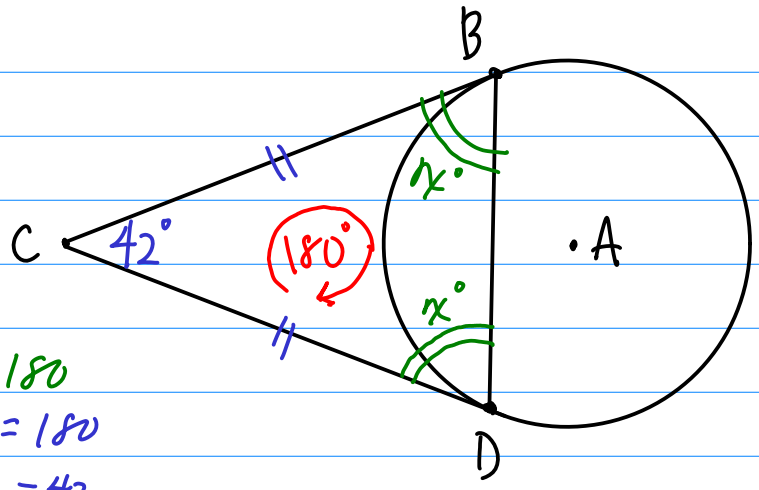
Find $m\angle R$

$= 30^\circ$

* **Tangent Segments Conjecture:** Tangent segments to a ⊙ from a pt outside the ⊙ are ≅.



Ex:



Given:
B & D are pts of tangency;
$m\angle C = 42°$

Find $m\angle CBD$

$= 69°$

$42 + x + x = 180$

$42 + 2x = 180$

$-42 \quad -42$

$2x = 138$

$\frac{2x}{2} = \frac{138}{2}$

$x = 69$