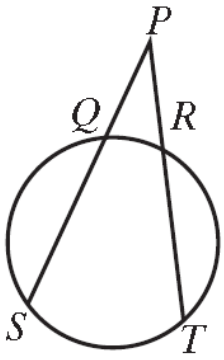
Name: _____

Angles Formed by Tangents, Chords, and Secants

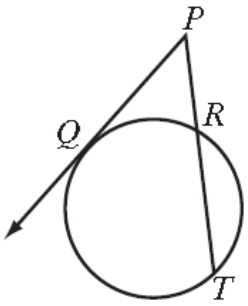
Exercise 1: Secants $\overleftrightarrow{PQS}$ and $\overleftrightarrow{PRT}$ intersect at P.

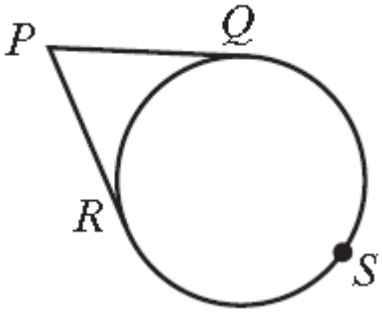
1) If $mST = 160^0$ and $mQR = 90^0$, find $m\angle P$.
2) If $mST = 120^0$ and $mQR = 30^0$, find $m\angle P$.
3) If $mST = 43^0$ and $mQR = 80^0$, find $m\angle P$.
4) If $mST = 60^0$ and $mQR = 50^0$, find $m\angle P$.
5) If $mST = 120^0$ and $m\angle P = 35^0$, find mQR.



Exercise 2: Tangent $\overleftrightarrow{PQ}$ and secant $\overleftrightarrow{PRT}$ intersect at P.

1) If $mQT = 170^0$ and $mQR = 80^0$, find $m\angle P$.
2) If $mQT = 100^0$ and $mQR = 60^0$, find $m\angle P$.
3) If $mQR = 170^0$ and $mRT = 30^0$, find $m\angle P$.
4) If $mQR = 120^0$ and $m\angle P = 30^0$, find mQT.



Exercise 3: Tangents $\overleftrightarrow{PR}$ and $\overleftrightarrow{QP}$ intersect at P; S is on the major arc QR.

1) If $mQR = 160^0$, find $m\angle P$.
2) If $mQR = 85^0$, find $m\angle P$.
3) If $mRSQ = 260^0$, find $m\angle P$.
4) If $mRSQ = 234^0$, find $m\angle P$.