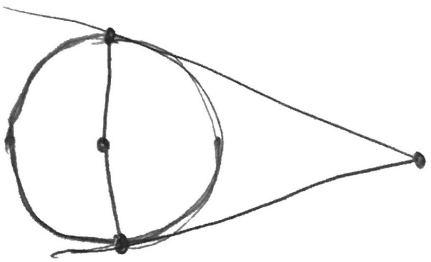
LESSON: INTRO TO CIRCLES

HW: p.61 #1-4, p.62 #1-4, p.80 #1-6

OPENER: PROJECT VOCAB MATCHING p.452 Sect. 9.1
PRE-ASSESSMENT

ACTIVITY: 2 TANGENT INVESTIGATIONS

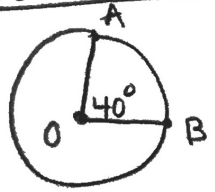


① Draw a circle w/ one tangent. Measure the angle between the radius and the tangent. What can you conclude?

② Draw a point at the end of the tangent. Draw a 2nd tangent from that point to the circle. Measure the length from the end point to each tangent point.

- TANGENT FORMS 90° ANGLE / IS PERPENDICULAR TO RADIUS
- TANGENT SEGMENTS OF A CIRCLE THAT MEET AT A POINT OUTSIDE THE CIRCLE ARE CONGRUENT

INTERCEPTED ARCS: the arc formed by a central angle

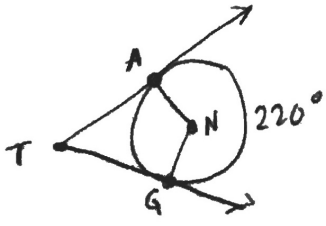


$\overset{\frown}{AB}$ is the intercepted arc.

$m\overset{\frown}{AB} = m\angle AOB = 40°$

All arc measures add to 360°, just like central angles.

EX.



Find $m\angle T$, given $\overrightarrow{TA}$ and $\overrightarrow{TG}$ are tangents.

① First, $m\angle ANG = m\overset{\frown}{AG} = 360° - 220° = 140°$

② Because $\overrightarrow{TA}$ and $\overrightarrow{TG}$ are tangents, $m\angle NAT$ and $m\angle NGT = 90°$

③ TANG is a quadrilateral, so interior angles sum to 360°. $\angle T + 90° + 90° + 140° = 360°$

$m\angle T = 40°$