

Watch. Practice. Understand. | Lesson 058

2021 Must Know Geometry Power Theorems (Big Idea Geometry 10.6)

Watch the matching video: <https://www.youtube.com/watch?v=GHvPoPEzp4U>

Practice focus: Circle angles, tangents and power

Original extra practice matched to the listed lesson topic.

Name: _____ Date: _____ Show your reasoning and check units.

01 Intersecting chords have parts 3 and 8 on one chord, 4 and x on the other. Find x .

02 A tangent has length t . A secant from the same external point has external part 4 and whole length 9. Find t .

03 Two secants from an external point intercept arcs of 140° and 60° . Find the external angle.

04 A tangent and chord meet on a circle and intercept a 110° arc. Find the angle.

Worked answers | Lesson 058

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01 Intersecting chords have parts 3 and 8 on one chord, 4 and x on the other. Find x .

$3(8) = 4x$ by chord power, so $x = 6$.

02 A tangent has length t . A secant from the same external point has external part 4 and whole length 9. Find t .

$t^2 = 4(9)$, so $t = 6$.

03 Two secants from an external point intercept arcs of 140° and 60° . Find the external angle.

Half the difference of intercepted arcs: $(140 - 60)/2 = 40^\circ$.

04 A tangent and chord meet on a circle and intercept a 110° arc. Find the angle.

The tangent-chord angle is half the intercepted arc: 55° .