

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

Lesson 058 | Geometry | Circle angles, tangents and power

<https://www.youtube.com/watch?v=GHvPoPEzp4U>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

From an external point, a secant has external part 10 and internal part 30. Find the tangent length.

02

Two chords intersect inside a circle. One has segment lengths 6 and 8; the other has lengths 4 and x . Find x .

03

Two chords intersect inside a circle. One has segment lengths 9 and 30; the other has lengths 6 and x . Find x .

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04

From an external point, a secant has external part 7 and internal part 105. Find the tangent length.

05

Two chords intersect inside a circle. One has segment lengths 9 and 56; the other has lengths 8 and x . Find x .

06

Two chords intersect inside a circle. One has segment lengths 7 and 40; the other has lengths 8 and x . Find x .

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01

From an external point, a secant has external part 10 and internal part 30. Find the tangent length.

$\text{Tangent}^2 = \text{external} \cdot \text{whole} = 10 \cdot 40 = 400$. Positive tangent length = 20.

02

Two chords intersect inside a circle. One has segment lengths 6 and 8; the other has lengths 4 and x . Find x .

Intersecting chord products are equal: $6 \cdot 8 = 4x$. Divide by 4: $x = 12$.

03

Two chords intersect inside a circle. One has segment lengths 9 and 30; the other has lengths 6 and x . Find x .

Intersecting chord products are equal: $9 \cdot 30 = 6x$. Divide by 6: $x = 45$.

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04

From an external point, a secant has external part 7 and internal part 105. Find the tangent length.

$\text{Tangent}^2 = \text{external} \cdot \text{whole} = 7 \cdot 112 = 784$. Positive tangent length = 28.

05

Two chords intersect inside a circle. One has segment lengths 9 and 56; the other has lengths 8 and x . Find x .

Intersecting chord products are equal: $9 \cdot 56 = 8x$. Divide by 8: $x = 63$.

06

Two chords intersect inside a circle. One has segment lengths 7 and 40; the other has lengths 8 and x . Find x .

Intersecting chord products are equal: $7 \cdot 40 = 8x$. Divide by 8: $x = 35$.