GEOMETRY · CLASSWORK

Relate Chords Equidistant from the Center

SCORE / 25

01 Part A · Practice

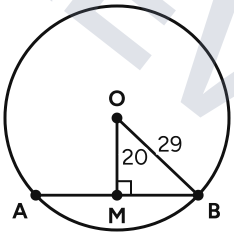
Chords equidistant from the center are congruent. Half the chord, the distance to the center, and the radius form a right triangle.

EXAMPLE

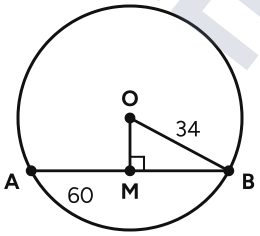
A chord is 6 **cm from the center of a circle with radius** 10 **cm. How long is the chord?**

1. Half-chord: $\sqrt{10^2 - 6^2} = 8$.
2. The $\perp$ bisects the chord: $2(8) = 16$ cm.

1 ●○○ In circle O with radius 29, chord $\overline{AB}$ is 20 units from the center. Find AB.



2 ●○○ A circle has radius 34. How far from the center is a chord of length 60?



3 ●○○ Chords $\overline{WX}$ and $\overline{YZ}$ are each 12 cm from the center. $WX = 4x - 8$, $YZ = 2x + 4$. Find YZ.

4 ●○○ A chord of length 96 is 14 units from the center of a circle. Find the radius.

PREVIEW

Preview - the full worksheet and its answer key are at primeworksheet.com