A chord of a circle joins 2 points on the circle.

**Chord Properties**

In any circle with centre O and chord AB:

1. If OC bisects AB, then OC ⊥ AB
2. If OC ⊥ AB, then AC = CB
3. The perpendicular line of AB goes through the centre O

**Example:**

Find \( \angle x \), \( \angle y \) and \( \angle Z \)

\[ \angle x = 90^\circ \]
\[ \angle Z = 30^\circ \]
\[ \angle Z = 30^\circ \]
\[ 90 + 30 = 120 \]
\[ 180 - 120 = 60^\circ \]

Ex #2

\[ \text{O is the centre} \]
\[ \text{find the length of chord AB} \]

\[ AB = 16 \]

\[ x^2 + 6^2 = 10^2 \]
\[ x^2 + 36 = 100 \]
\[ -36 \quad -36 \]
\[ \sqrt{x^2} = \sqrt{64} \]
\[ x = 8 \]

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