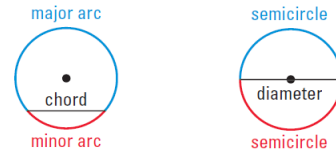


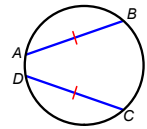
# Segments & Circles (part 1)

Any chord divides a circle into two arcs.



**Theorem**

In the same circle, or in congruent circles, two minor arcs are congruent if and only if their corresponding chords are congruent.

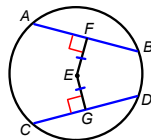


title

thm

**Theorem**

In the same circle, or in congruent circles, two chords are congruent if and only if they are equidistant from the center.



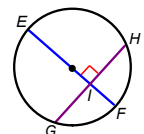
thm

**Bisecting Arcs**

- A point is called the *midpoint* of an arc if it divides the arc into two congruent parts.
- Any line, segment, or ray that contains the midpoint *bisects* the arc.

**Theorem**

If a diameter of a circle is perpendicular to a chord, then the diameter bisects the chord and its arc.



thm

Find the value of  $x$ .

$$\frac{360}{260} - \frac{100}{260} = \frac{260}{260} = 130^\circ$$

$$8x - 5 = 6x + 1$$

$$2x = 6$$

$$x = 3$$

**Theorem**  
Tangent segments from a common external point are congruent.

examples

thm

Find the value of  $x$ .

$$x^2 - 1 = 24$$

$$x^2 = 25$$

$$x = 5$$

Find the perimeter of the polygon.

$$4 \cdot 2 + 10 \cdot 2 + 11.1 \cdot 2 + 9.7 \cdot 2$$

$$89.6$$

examples

Feb 10-4:08 PM