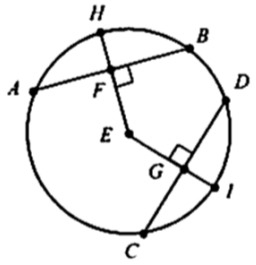
Congruent Arcs & Chords Notes/Practice Name: _____

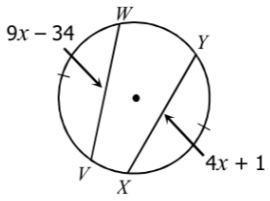
# Congruent Chords & Arcs



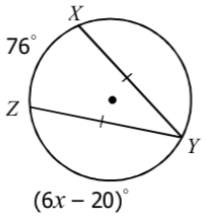

- Two chords are congruent if and only if:
  a) Their corresponding arcs are ≅
  $\overline{AB} = \overline{CD}$ ↔ $m\overset{\frown}{AB} = m\overset{\frown}{CD}$
  b) They are equidistant from the center
  $AB = CD$ ↔ $EF = EG$
- If a diameter or radius is perpendicular to a chord, then it bisects the chord and its arc.
  $\overline{EH} \perp \overline{AB}$ → $AF = FB$ and $m\overset{\frown}{AH} = m\overset{\frown}{HB}$

Directions: For #1-4, solve for x.

1.

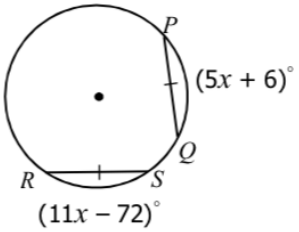



2.

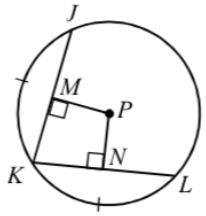



Directions: For #5-8, solve for the indicated arc or segment.

3. Find the measure of minor arc PQ.




4. If $MP = 5x - 34$ *and* $PN = 2x - 4$, find MP.




*YOU CAN SKIP THIS PROBLEM!

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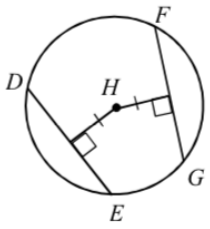
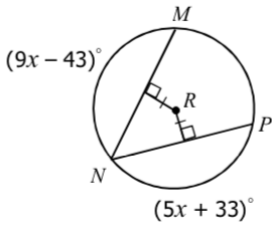
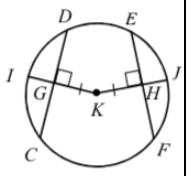
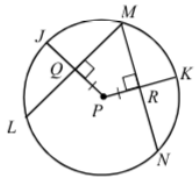
|---|---|
| 5. If $DE = 11x + 15$ $and$ $FG = 32x - 27$, find FG.<br>  <br> | 6. Find the measure of minor arc MP.<br>  <br> |
| 7. If $\overset{\frown}{mCI} = (7x - 15)^\circ$ and $\overset{\frown}{mEF} = (12x - 8)^\circ$, find $\overset{\frown}{mCI}$.<br>  <br> | 8. If $QM = 6X - 11$ $and$ $MR = 2x + 9$, find the measure of arc MN.<br>  <br> |