Name: _____

9. In circle Z, if $RS = 18$, and $m\overset{\frown}{TY} = 42°$, find each measure.
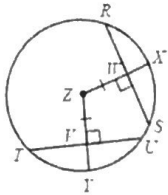
$TV = $ __9__

$TU = $ __18__

$WS = $ __9__

$m\overset{\frown}{YU} = $ __42°__

$m\overset{\frown}{RS} = $ __84°__

10. In circle I, if $BG = 17$, and $m\overset{\frown}{CHA} = 256°$, find each measure.
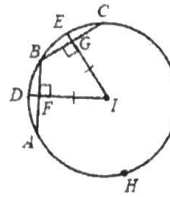
$BC = $ __34__

$FB = $ __17__

$m\overset{\frown}{AB} = $ __52°__

$m\overset{\frown}{BC} = $ __52°__

$m\overset{\frown}{EC} = $ __26°__

11. If $QM = 6x - 11$ and $MR = 2x + 9$, find MN.

$X = 5$

$MR = 19$

$MN = 38$
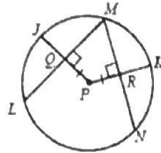
12. If $m\overset{\frown}{CI} = (7x - 15)°$ and $m\overset{\frown}{EF} = (12x - 8)°$, find $m\overset{\frown}{CI}$.

$X = 11$

$m\overset{\frown}{CI} = 62°$
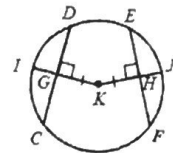
Use the circle below for questions 13 and 14.	**13.** Find VW. $= 24$	**14.** Find $m\overset{\frown}{YW}$.
	15. Find PH. $= 17$	**16.** Find $m\overset{\frown}{GJ}$.
Use the circle below for questions 15 and 16. $HK = 30$ and $PM = 8$		
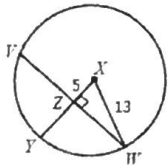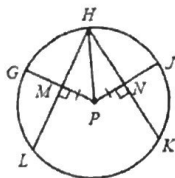
Congruent Chords & Arcs	• Two chords are congruent if and only if:
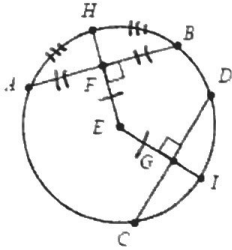
a) <u>their corresponding arcs are congruent</u>

$AB = CD$　　↔　$m \overarc{AB} = m \overarc{CD}$

b) <u>they are equidistant from the center</u>

$AB = CD$　　↔　$FE = EG$

• If a diameter or radius is <u>perpendicular</u> to a chord, then it <u>bisect</u> the <u>chord</u> and its <u>arc</u>.

$\overline{EH} \perp \overline{AB}$　→　$AF = FB$　and　$m \overarc{AH} = m \overarc{HB}$
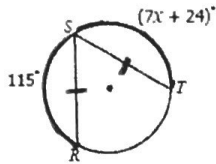
Directions: Find the indicated value.

1. Find x.

$115 = 7x + 24$

$91 = 7x$

$\boxed{13 = x}$

$(7x + 24)°$, $115°$

2. Find x.

$52 = 18x - 2$

$54 = 18x$

$\boxed{3 = x}$

52, $18x - 2$

3. Find XY.

$x = 7$

$XY = 29$

$9x - 34$, $4x + 1$

4. Find $m\overarc{RS}$.

$x = 13$

$\boxed{71°}$

$(5x + 6)°$, $(11x - 72)°$
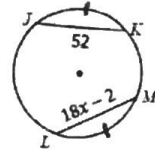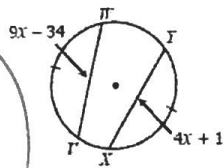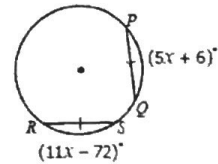
7. If $DE = 11x + 15$ and $FG = 32x - 27$, find DE.

$x = 2$

$DE = 37$

8. Find $m\overarc{MP}$.

$128°$, $104°$

$(9x - 43)°$

$(5x + 33)°$

$128°$

$x = 19$