Geometry                                         Name_____

# Circles, arcs, and angle measures              Date_____ Period____
**Find the measure of the arc or angle indicated.  Assume that lines which appear tangent are tangent.**

1)


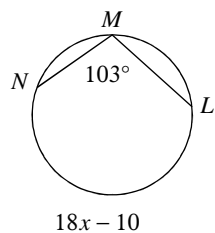
2)



3)



4)



5)



6)



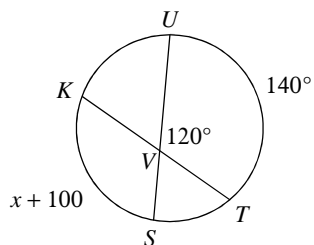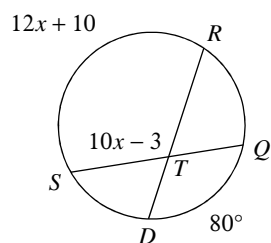**Solve for $x$.  Assume that lines which appear tangent are tangent.**

7)



8)

9)



$M$

$103°$

$N$

$L$

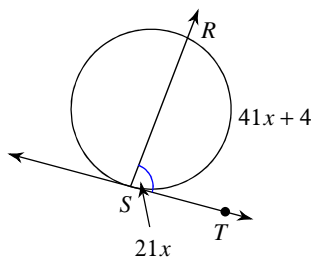$18x - 10$
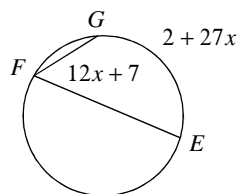
10)



$U$

$K$

$140°$

$120°$

$V$

$x + 100$

$S$

$T$
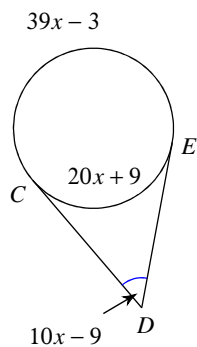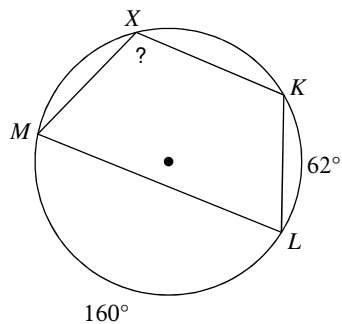
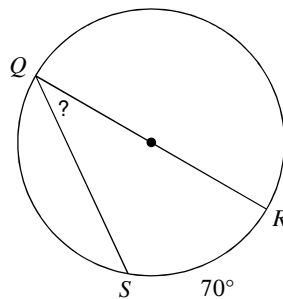**Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.**

11) Find $m\angle STR$



$12x + 10$

$R$

$10x - 3$

$Q$

$S$

$T$

$D$

$80°$

12) Find $m\angle RST$



$R$

$41x + 4$

$S$

$T$

$21x$

13) Find $m\angle EFG$



$G$

$2 + 27x$

$F$

$12x + 7$

$E$

14) Find $m\angle CDE$



$39x - 3$

$E$

$20x + 9$

$C$

$10x - 9$

$D$

**Find the measure of the arc or angle indicated.**

15)



$X$
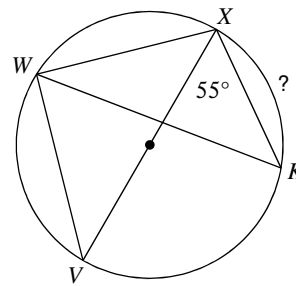
$?$

$K$

$M$

$62°$

$L$

$160°$

16)



$Q$

$?$

$R$

$S$

$70°$

17)
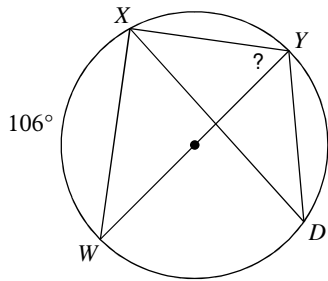


18)
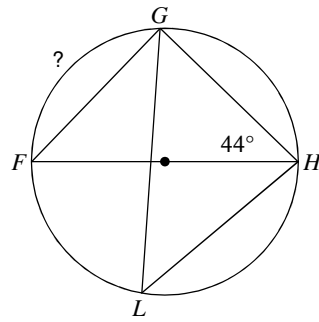


19)
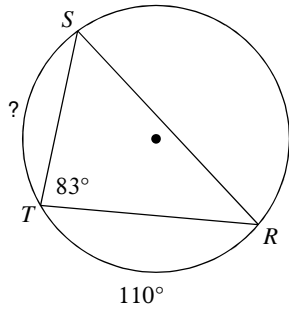


20)
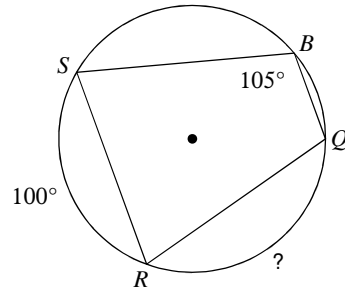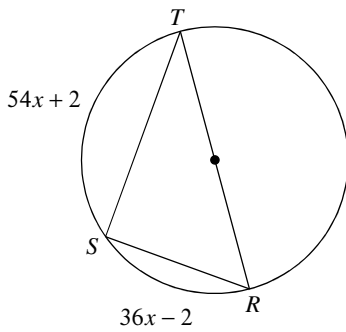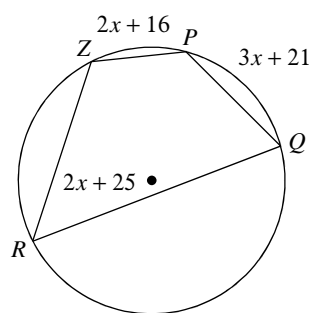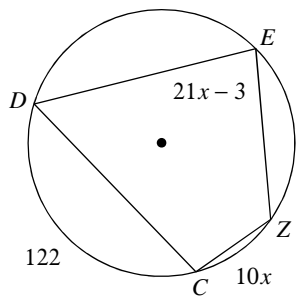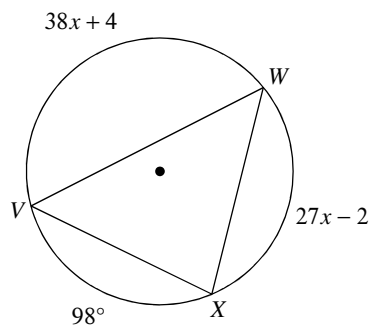


21)
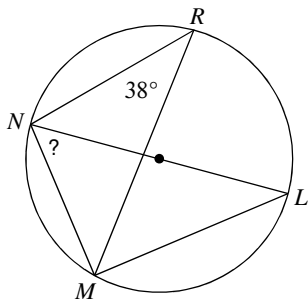


22)



23) Find $m\angle TRS$



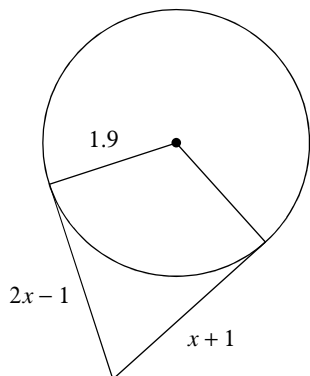24) Find $m\widehat{ZP}$

25) Find $m\widehat{ZC}$



26) Find $m\angle XVW$
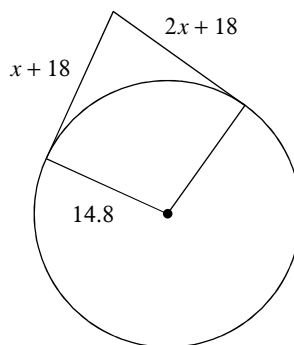


**Solve for $x$.  Assume that lines which appear to be tangent are tangent.**
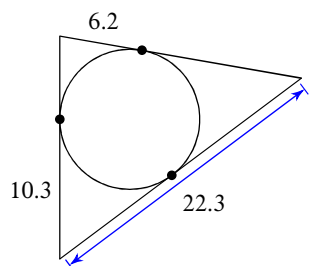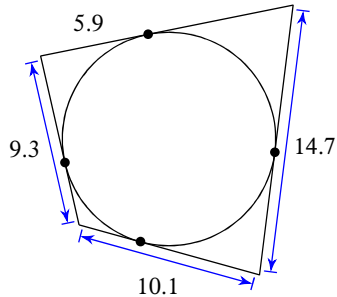
27)



28)



**Find the perimeter of each polygon.  Assume that lines which appear to be tangent are tangent.**
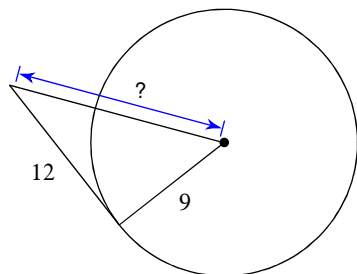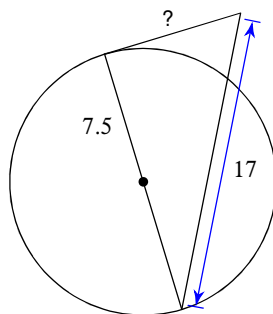
29)



30)



**Find the segment length indicated.  Assume that lines which appear to be tangent are tangent.**

31)



32)

# Answers to Circles, arcs, and angle measures

| | | | |
|---|---|---|---|
| 1) 170° | 2) 110° | 3) 88° | 4) 128° |
| 5) 185° | 6) 79° | 7) 8 | 8) 1 |
| 9) 12 | 10) 0 | 11) 117° | 12) 84° |
| 13) 55° | 14) 51° | 15) 111° | 16) 35° |
| 17) 53° | 18) 88° | 19) 84° | 20) 110° |
| 21) 52° | 22) 70° | 23) 55° | 24) 42° |
| 25) 40° | 26) 53° | 27) 2 | 28) 0 |
| 29) 57 | 30) 48 | 31) 15 | 32) 8 |