

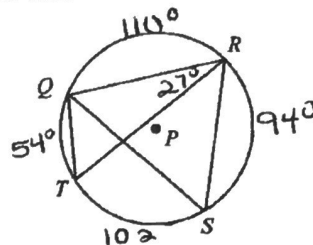
Name: Key
 Date: _____ Per: _____

Geometry
Unit 10: Circles

Quiz 10-2: Inscribed Angles, Tangents, Angle & Arc Measures

1. In circle P, if $m\widehat{QR} = 110^\circ$, $m\widehat{RS} = 94^\circ$, and $m\angle QRT = 27^\circ$, find each measure.

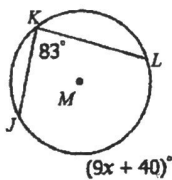
- a) $m\angle QTR = \underline{55^\circ}$ d) $m\angle TRS = \underline{51^\circ}$
 b) $m\angle RQS = \underline{47^\circ}$ e) $m\angle QSR = \underline{55^\circ}$
 c) $m\widehat{TS} = \underline{102^\circ}$ f) $m\widehat{QT} = \underline{54^\circ}$



For questions 2-5, find each value or measure.

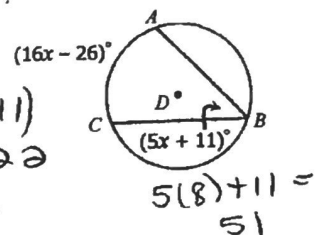
2. $x = \underline{14}$

$9x + 40 = 2(83)$
 $9x + 40 = 166$
 $9x = 126$
 $x = 14$



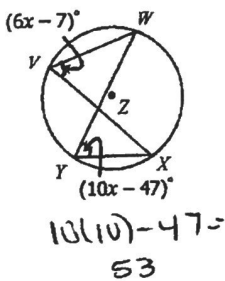
3. $m\angle ABC = \underline{51^\circ}$

$16x - 26 = 2(5x + 11)$
 $16x - 26 = 10x + 22$
 $6x - 26 = 22$
 $6x = 48$
 $x = 8$



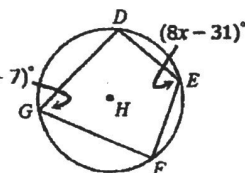
4. $m\widehat{WX} = \underline{106^\circ}$

$10x - 47 = 6x - 7$
 $4x - 47 = -7$
 $4x = 40$
 $x = 10$

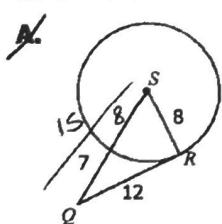


5. $m\angle DGF = \underline{75^\circ}$

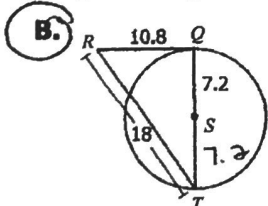
$4x + 7 + 8x - 31 = 180$
 $12x - 24 = 180$
 $12x = 204$
 $x = 17$
 $4(17) + 7 = 75$



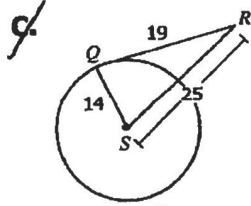
6. In which of the following diagrams is \overline{QR} tangent to circle S? Circle the best answer.



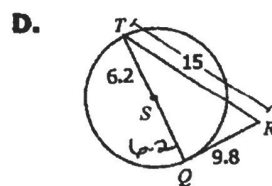
$8^2 + 12^2 = 15^2$
 $64 + 144 = 225$
 $208 \neq 225$



$10.8^2 + 14.4^2 = 18^2$
 $116.64 + 207.36 = 324$
 $324 = 324$



$14^2 + 19^2 = 25^2$
 $196 + 361 = 625$
 $557 \neq 625$



$12.4^2 + 9.8^2 = 15^2$
 $153.76 + 96.04 = 225$
 $249.8 \neq 225$

For questions 7-10, find each value or measure. Assume that segments that appear to be tangent are tangent.

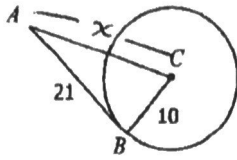
7. $AC = \underline{23.3}$

$$10^2 + 21^2 = x^2$$

$$100 + 441 = x^2$$

$$\sqrt{541} = \sqrt{x^2}$$

$$x = 23.3$$



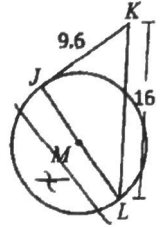
8. $ML = \underline{6.4}$

$$x^2 + 9.6^2 = 16^2$$

$$x^2 + 92.16 = 256$$

$$\sqrt{x^2} = \sqrt{163.84}$$

$$x = 12.8$$



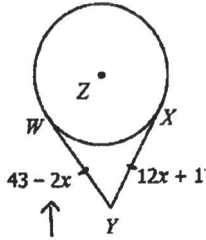
9. $WY = \underline{37}$

$$12x + 1 = 43 - 2x$$

$$14x + 1 = 43$$

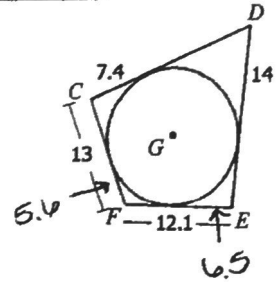
$$14x = 42$$

$$x = 3$$



$$43 - 2(3) = 37$$

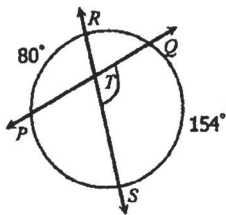
10. Perimeter of $CDEF = \underline{67}$



For questions 11-20, find each value or measure.

11. $m\angle QTS = \underline{117^\circ}$

$$\frac{154 + 80}{2}$$

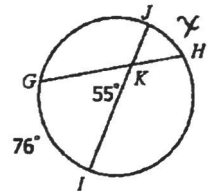


12. $m\widehat{JH} = \underline{34^\circ}$

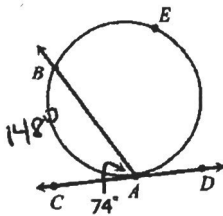
$$55 = \frac{x + 76}{2}$$

$$110 = x + 76$$

$$x = 34$$



13. $m\widehat{BEA} = \underline{212^\circ}$



14. $m\angle TUV = \underline{46^\circ}$

$$\frac{145 - 53}{2}$$

