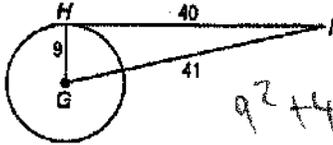


10-5 Skills Practice

Tangents

Determine whether each segment is tangent to the given circle. Justify your answer.

1. \overline{HI}

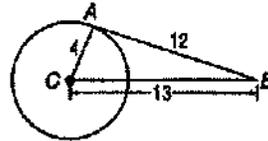


$$9^2 + 40^2 = 41^2$$

$$81 + 1600 = 1681$$

yes!

2. \overline{AB}



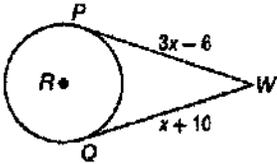
$$4^2 + 12^2$$

$$16 + 144 \neq 169$$

Nope!

Find x . Assume that segments that appear to be tangent are tangent. Round to the nearest tenth if necessary.

3.



$$3x-6 = x+10$$

$$-x \quad -x$$

$$2x-6 = 10$$

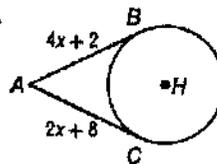
$$+6 \quad +6$$

$$2x = 16$$

$$\frac{2x}{2} = \frac{16}{2}$$

$$x = 8$$

4.



$$4x+2 = 2x+8$$

$$-2x \quad -2x$$

$$2x+2 = 8$$

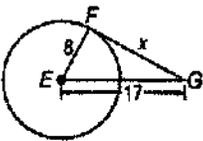
$$-2 \quad -2$$

$$2x = 6$$

$$\frac{2x}{2} = \frac{6}{2}$$

$$x = 3$$

5.

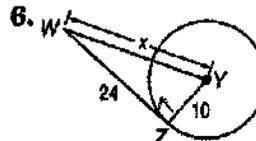


$$8^2 + x^2 = 17^2$$

$$64 + x^2 = 289$$

$$x^2 = 225$$

$$x = 15$$



$$x^2 = 10^2 + 24^2$$

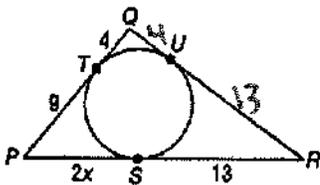
$$x^2 = 100 + 576$$

$$\sqrt{x^2} = \sqrt{676}$$

$$x = 26$$

For each figure, find x . Then find the perimeter.

7.

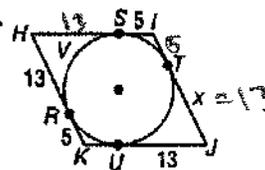


$$x = 45$$

$$9 + 4 + 4 + 13 + 13 + 9$$

$$52$$

8.



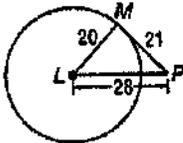
$$18 \cdot 4 = 72$$

10-5 Practice

Tangents

Determine whether each segment is tangent to the given circle. Justify your answer.

1. \overline{MP}

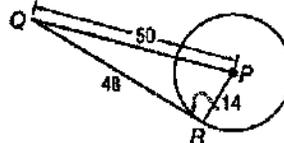


$$20^2 + 21^2 = 28^2$$

$$400 + 441 \neq 784$$

Not a tangent!

2. \overline{QR}



$$14^2 + 48^2 = 50^2$$

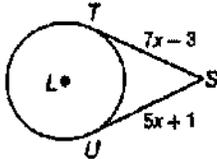
$$196 + 2304 = 50^2$$

$$2500 = 50^2$$

YES!

Find x . Assume that segments that appear to be tangent are tangent. Round to the nearest tenth if necessary.

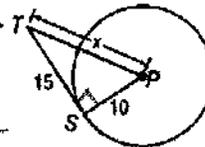
3.



$$7x-3 = 5x+1$$

$$\begin{array}{r} 7x-3 = 5x+1 \\ -5x \quad -5x \\ \hline 2x-3 = 1 \\ +3 \quad +3 \\ \hline 2x = 4 \\ x = 2 \end{array}$$

4.



$$15^2 + 10^2 = x^2$$

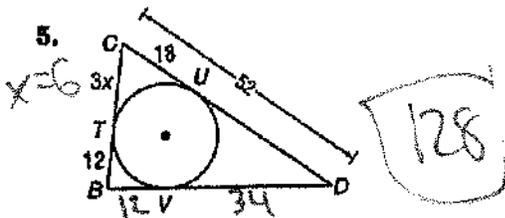
$$225 + 100 = x^2$$

$$\sqrt{325} = \sqrt{x^2}$$

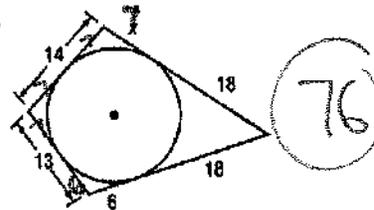
$$18.0$$

For each figure, find x . Then find the perimeter.

5.



6.



7. **CLOCKS** The design shown in the figure is that of a circular clock face inscribed in a triangular base. AF and FC are equal.

a. Find AB .

9.5

b. Find the perimeter of the clock.

$$9.5 + 9.5 + 15 = 34$$

