10-5 Practice
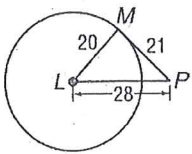
Tangents

Determine whether each segment is tangent to the given circle.

1. $\overline{MP}$

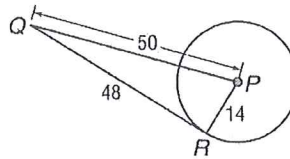$a^2 + b^2 = c^2$
$20^2 + 21^2 \overset{?}{=} 28^2$
$400 + 441 = 784$
$841 \neq 784$

NO

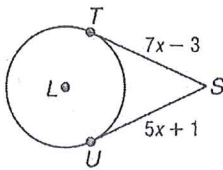2. $\overline{QR}$

$a^2 + b^2 = c^2$
$14^2 + 48^2 = 50^2$
$196 + 2304 = 2500$
$2500 = 2500 \checkmark$

yes

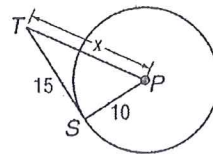**Find x. Assume that segments that appear to be tangent are tangent.**

3.

$7x - 3 = 5x + 1$
$-5x \quad +3 \quad -5x + 3$
$2x = 4$
$x = 2$

4.

$a^2 + b^2 = c^2$
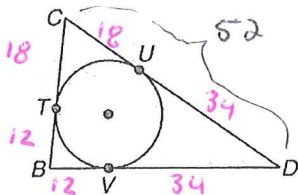$10^2 + 15^2 = x^2$
$100 + 225 = x^2$
$\sqrt{325} = \sqrt{x^2}$
$\sqrt{25} \cdot \sqrt{13} = x$
$5\sqrt{13} = x$

Find the perimeter of each polygon for the given information. Assume that segments that appear to be tangent are tangent.
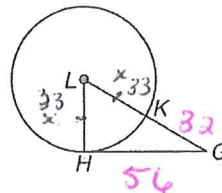
5. $CD = 52$, $CU = 18$, $TB = 12$

52
$52 - 18$
34

$(18 + 12) + (12 + 34) + (18 + 34)$
128 units

6. $KG = 32$, $HG = 56$

$x^2 + 56^2 = (32 + x)^2$
$x^2 + 56^2 = (x + 32)(x + 32)$
$x^2 + 3136 = x^2 + 64x + 1024$
$3136 = 64x + 1024$
$2112 = 64x$
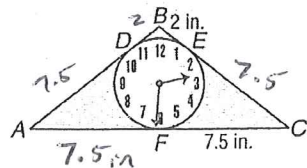$33 = x$

$33 + 56 + 32 + 33$
154 units

CLOCKS For Exercises 7 and 8, use the following information.

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

7. Find AB. $7.5 + 2 = 9.5$ in

8. Find the perimeter of the clock. $(7.5 \cdot 2) + (7.5 \cdot 2) + (2 \cdot 2)$
$15 + 15 + 4$
34 in