

Day 2 - Perpendicular and Angle Bisectors of Triangles - Practice

1. Use the figure at the right to answer the following questions:

a. What type of relationship exists between \overline{LN} and \overline{MO} ?

perpendicular bisectors

b. What is the value of x ?

$$5x = 3x + 20$$

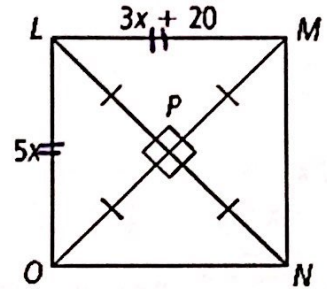
$$2x = 20$$

$$x = 10$$

c. How long is \overline{LM} ?

$$\overline{LM} = 3(10) + 20$$

$$\overline{LM} = 50$$



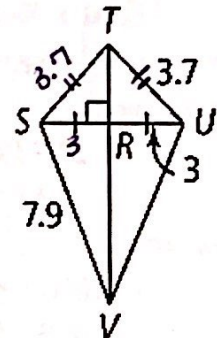
2. Use the figure at the right to answer the following questions:

a. \overline{SR}
3

b. \overline{ST}
3.7

c. \overline{SU}
6

d. \overline{TR}
 $3^2 + b^2 = 3.7^2$
 $9 + b^2 = 13.69$
 $b^2 = 4.69$
 $b \approx 2.2$



3. Use the figure at the right to answer the following questions:

a. How far is M from \overline{KL} ? 8

b. How far is M from \overline{JK} ? 8

c. How is \overline{KM} related to $\angle JKL$? angle bisector

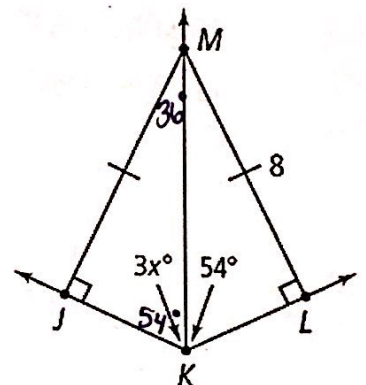
d. Find the value of x . $3x = 54$
 $x = 18$

e. Find $m\angle MKL$. 54°

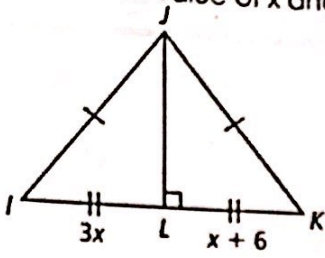
f. Find $m\angle JMK$ and $m\angle LMK$.

$$m\angle JMK = 36^\circ$$

$$m\angle LMK = 36^\circ$$



4. Find the value of x and \overline{IK} .



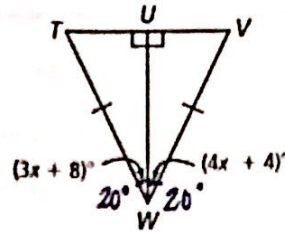
$$3x = x + 6$$

$$2x = 6$$

$$x = 3$$

$$\overline{IK} = 18$$

5. Find the value of x and $m\angle W$.



$$3x + 8 = 4x + 4$$

$$8 = x + 4$$

$$4 = x$$

$$m\angle W = 40^\circ$$

Use the figure at the right to answer the following questions:

a. According to the figure, how far is A from \overline{CD} ? from \overline{CB} ?

15

b. How is \overline{CA} related to $\angle DCB$? Explain.

Angle bisector because A is equidistant from \overline{DC} and \overline{CB}

c. Find the value of x .

$$2x = 3x - 29$$

$$-x = -29$$

$$x = 29$$

d. Find $m\angle ACD$ and $m\angle ACB$.

$$m\angle ACD = 58^\circ$$

$$m\angle ACB = 58^\circ$$

e. Find $m\angle DAC$ and $m\angle BAC$.

$$m\angle DAC = 32^\circ$$

$$m\angle BAC = 32^\circ$$

