

Name: Key

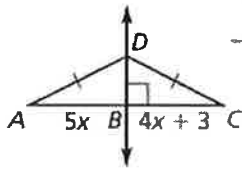
Date:

Hour:

Advanced Geometry
WS PC #1 Review (6.1 - 6.6)

Find the indicated measure.

1. AB

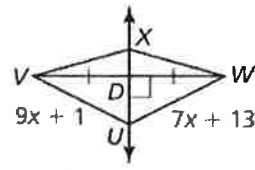


$$\begin{aligned} 5x &= 4x + 3 \\ -4x & \quad -4x \\ \hline x &= 3 \end{aligned}$$

$$5(3) = 15$$

$$\boxed{AB = 15}$$

2. UW



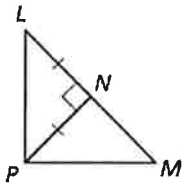
$$\begin{aligned} 9x + 1 &= 7x + 13 \\ -7x & \quad -7x \\ \hline 2x + 1 &= 13 \end{aligned}$$

$$\begin{aligned} -1 & \quad -1 \\ \hline 2x &= 12 \\ \frac{2x}{2} &= \frac{12}{2} \\ x &= 6 \end{aligned}$$

$$\begin{aligned} 7(6) + 13 \\ 42 + 13 \end{aligned}$$

$$\boxed{UW = 55}$$

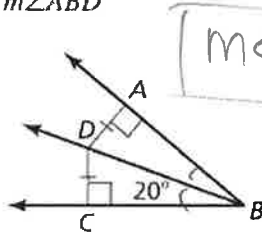
3. Tell whether the information in the diagram allows you to conclude point P lies on the perpendicular bisector of \overline{LM} .



no, not enough info
you would need to know
 $LN = MN$ or $LP = MP$

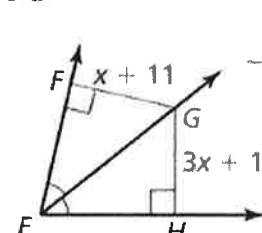
Find the indicated measure.

4. $m\angle ABD$



$$\boxed{m\angle ABD = 20^\circ}$$

5. FG



$$\begin{aligned} x + 11 &= 3x + 1 \\ -x & \quad -x \\ \hline 11 &= 2x + 1 \end{aligned}$$

$$\begin{aligned} -1 & \quad -1 \\ \hline 10 &= 2x \end{aligned}$$

$$\begin{aligned} \frac{10}{2} &= \frac{2x}{2} \\ 5 &= x \end{aligned}$$

$$5 + 11 = 16$$

$$\boxed{FG = 16}$$

6. Write an equation of the perpendicular bisector of the segment with the given endpoints.

a. $M(1, 5), N(7, -1)$

b. $Y(10, -7), Z(-4, 1)$

Midpt: $\frac{1+7}{2} \quad \frac{5+(-1)}{2}$
 $(4, 2)$

midpt: $\frac{10+(-4)}{2} \quad \frac{-7+1}{2}$
 $(3, -3)$

Slope: $\frac{-6}{6} = -1$

Slope: $\frac{8}{-14} = -\frac{4}{7}$

$l_m = 1$

$l_m = \frac{7}{4}$

$$\boxed{y = x - 2}$$

$$\boxed{y = \frac{7}{4}x - \frac{33}{4}}$$

$$2 = 1(4) + b$$

$$-3 = \frac{7}{4}(3) + b$$

$$2 = 4 + b$$

$$-3 = \frac{21}{4} + b$$

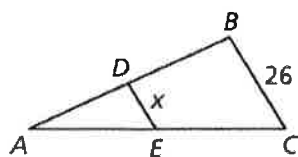
$$\begin{aligned} -4 & \quad -4 \\ \hline -2 &= b \end{aligned}$$

$$\begin{aligned} -\frac{21}{4} & \quad -\frac{21}{4} \\ \hline b &= -\frac{33}{4} \end{aligned}$$

$$b = -\frac{33}{4}$$

7. \overline{DE} is a midsegment of $\triangle ABC$. Find the value of x .

a.

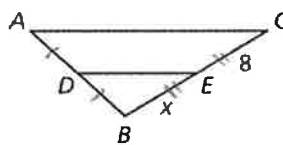


$$DE = \frac{1}{2}BC$$

$$\frac{1}{2}(26) = 13$$

X = 13

b.



X = 8

8. Describe the possible lengths of the third side of the triangle with the given lengths of the other two sides.

a. 2 feet, 40 inches

$$2\text{ ft} = 24\text{ in}$$

$$24 + 40 > x \quad 24 + x > 40 \quad 40 + x > 24$$

$$64 > x \quad x > 16 \quad x > -16$$

$16 < x < 64$

b. 25 meters, 25 meters

$$25 + 25 > x \quad 25 + x > 25$$

$$50 > x \quad x > 0$$

$0 < x < 50$

9. Is it possible to construct a triangle with side lengths 24, 26, 32?

$$24 + 26 > 32 \quad 24 + 32 > 26 \quad 26 + 32 > 24$$

✓

✓

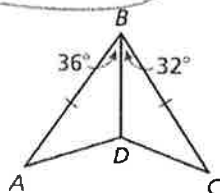
✓

Yes, sum of 2 sides is always greater than 3rd side

Copy and complete the statement with $<$, $>$, or $=$.

10.

$$AD > CD$$



11.

$$m\angle 1 > m\angle 2$$

