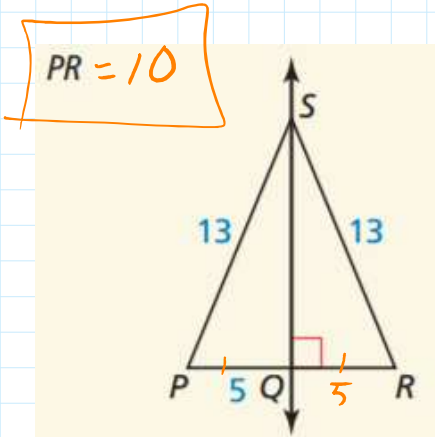


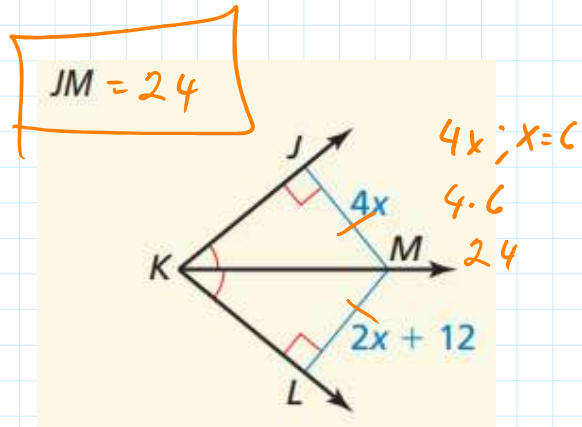
Test Review

6.1

Find the measure of the given element.



6.3



$$4x = 2x + 12$$

$$\begin{matrix} -2x & -2x \end{matrix}$$

$$\frac{2x}{2} = \frac{12}{2}$$

$$x = 6$$

②

Find the coordinates of the circumcenter of $\triangle DEF$ with vertices $D(6, 4)$, $E(-2, 4)$, and $F(-2, -2)$.

midpoint $\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$
 slope $\frac{\Delta y}{\Delta x} = \frac{y_2-y_1}{x_2-x_1}$

$\triangle DEF$ with vertices $D(6, 4)$, $E(-2, 4)$, and $F(-2, -2)$.

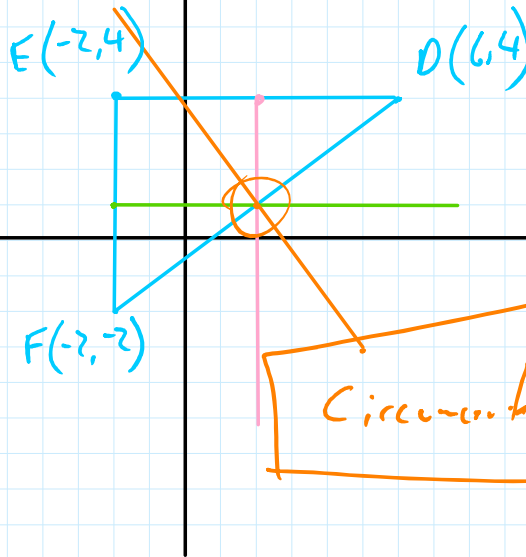
Built with \perp bisectors

midpoint $\overline{DF} = \left(\frac{-2+6}{2}, \frac{-2+4}{2}\right)$

$\left(\frac{4}{2}, \frac{2}{2}\right) = (2, 1)$

$m_{\overline{DF}} = \frac{-2+4}{-2+6} = \frac{-6}{-8} = \frac{6}{8} = \frac{3}{4}$

$\perp m_{\overline{DF}} = -\frac{4}{3}$



①

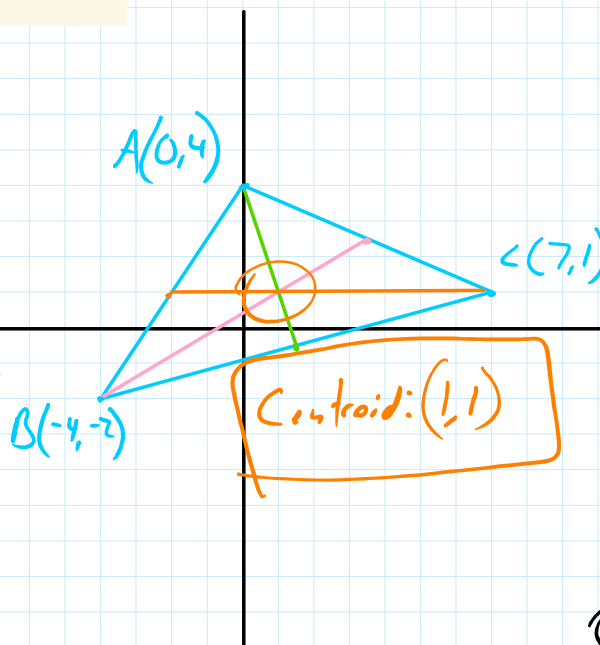
Find the coordinates of the centroid of $\triangle ABC$ with vertices $A(0, 4)$, $B(-4, -2)$, and $C(7, 1)$.

Built with Medians

midpoint $\overline{AC} = \left(\frac{0+7}{2}, \frac{4+1}{2}\right) = \left(\frac{7}{2}, \frac{5}{2}\right)$

midpoint $\overline{BC} = \left(\frac{-4+7}{2}, \frac{-2+1}{2}\right) = \left(\frac{3}{2}, -\frac{1}{2}\right)$

midpoint $\overline{AB} = \left(\frac{-4+0}{2}, \frac{-2+4}{2}\right) = \left(-\frac{4}{2}, \frac{2}{2}\right) = (-2, 1)$



①

Find the coordinates of the orthocenter of $\triangle XYZ$ with vertices $X(-5, -1)$, $Y(-2, 4)$, and $Z(3, -1)$.

Built with Altitudes

and $Z(3, -1)$.

Build with Altitudes

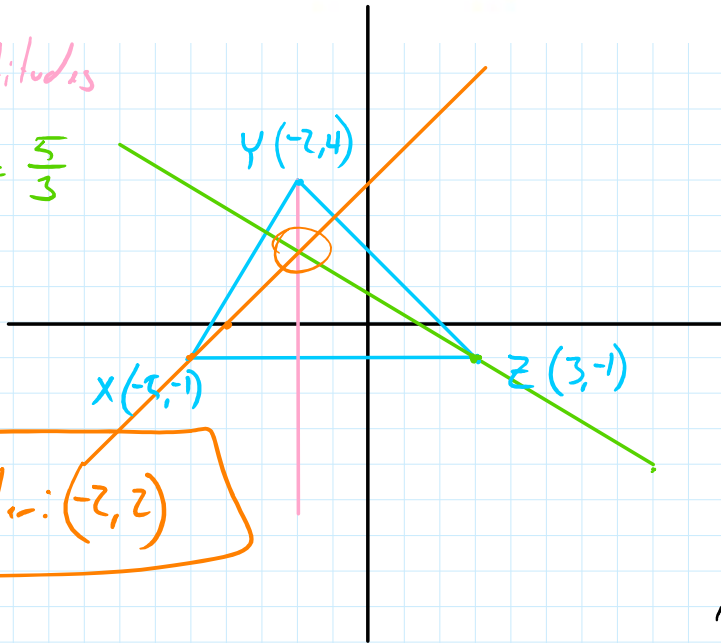
$$m_{\overline{XY}} = \frac{-1+4}{-5+2} = \frac{-5}{-3} = \frac{5}{3}$$

$$\perp m_{\overline{XY}} = -\frac{3}{5}$$

$$m_{\overline{YZ}} = \frac{4+1}{-2+3} = \frac{5}{-1} = -5$$

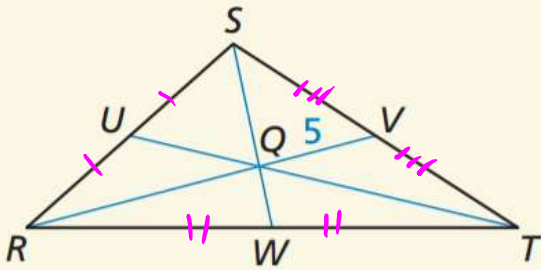
$$\perp m_{\overline{YZ}} = 1$$

Orthocenter: $(-2, 2)$



①

$VQ = 5$. Find RQ and RV .



Assumed Q was Centroid?

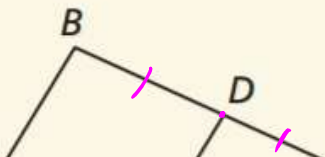
$$RV = 15$$

$$RQ = 10$$

Not Possible
Not enough info,
what is Q?

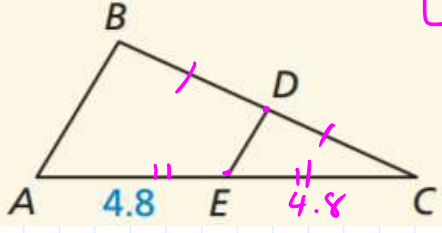
②

\overline{DE} is a midsegment of $\triangle ABC$. Find $AC = 9.6$



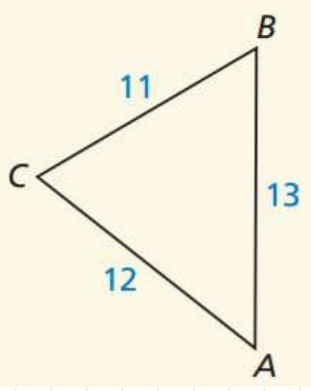
$AC = 9.6$

\overline{DE} is a midsegment of $\triangle ABC$. Find $AC = 9.6$



2

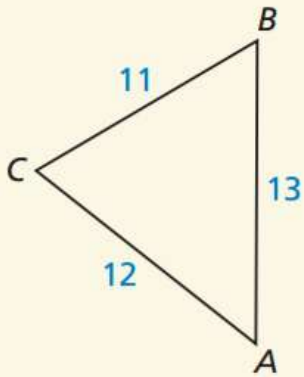
List the angles of $\triangle ABC$ in order from smallest to largest.



$\angle A$ smallest
 $\angle B$
 $\angle C$ largest

1

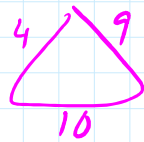
List the angles of $\triangle ABC$ in order from smallest to largest.



1

Decide whether it is possible to construct a triangle with the given side lengths. Explain your reasoning.

5. 4 ft, 9 ft, 10 ft

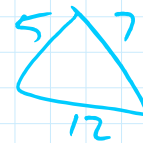


$$4 + 9 > 10 \quad 9 + 10 > 4 \quad 4 + 10 > 9$$

$$13 > 10 \quad 19 > 4 \quad 14 > 9$$

✓
Possible

7. 5 cm, 7 cm, 12 cm



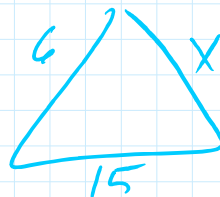
$$7 + 12 > 5 \quad 12 + 5 > 7 \quad 5 + 7 > 12$$

$$19 > 5 \quad 17 > 7 \quad 12 > 12$$

✓
Not possible
 $12 \not> 12$

2

A triangle has one side of length 6 and another side of length 15. Describe the possible lengths of the third side. The

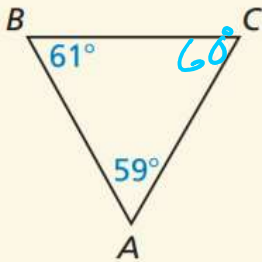


$$\begin{array}{r}
 6+x > 15 \\
 -6 \quad -6 \\
 \hline
 x > 9
 \end{array}
 \qquad
 \begin{array}{r}
 x+15 > 6 \\
 -15 \quad -15 \\
 \hline
 x > -9
 \end{array}
 \qquad
 \begin{array}{r}
 \quad \quad 15 \\
 6+15 > x \\
 \hline
 21 > x
 \end{array}$$

$$9 < x < 21$$

1

List the sides of $\triangle ABC$ in order from shortest to longest.

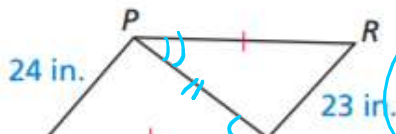


$$\begin{aligned}
 61 + 59 + C &= 180 \\
 120 + C &= 180 \\
 C &= 60
 \end{aligned}$$

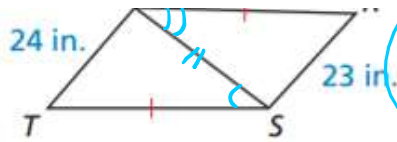
\overline{BC} smallest
 \overline{AB}
 \overline{AC} large

1

Given that $\overline{ST} \cong \overline{PR}$, how does $m\angle PST$ compare to $m\angle SPR$?



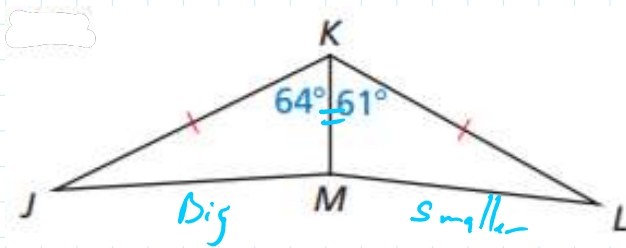
$$m\angle PST > m\angle SPR$$



$$m\angle PST > m\angle SPR$$

2

Given that $\overline{JK} \cong \overline{LK}$, how does JM compare to LM ?



$$JM > LM$$

1

The End!

16 total questions
Good luck

