

Name: Key

Date: 12/2

HONORS GEOMETRY 7.1-7.2 REVIEW

Directions: Show your work to receive full credit. Please work with a partner and check your answers posted on the front of the board.

1. The measures of three angles of a triangle are in the ratio 5:12:13.
Find the measure of the largest angle.

1. 78°

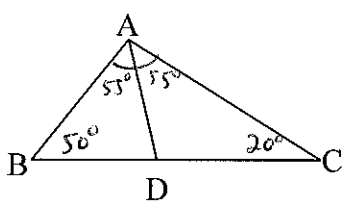
$$5x + 12x + 13x = 180$$

$$\frac{30x}{30} = \frac{180}{30} \quad x = 6$$

Largest $\angle = 13(6) = 78^\circ$

2. In the figure, $m\angle B = 50^\circ$ and $m\angle C = 20^\circ$. How many degrees are there in $\angle ADC$ if \overline{AD} bisects $\angle BAC$?

2. 105°



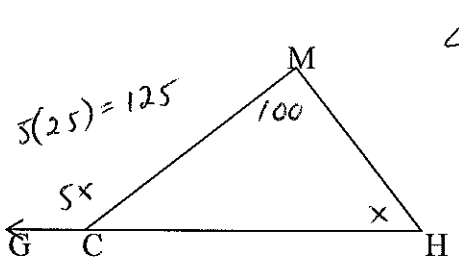
$$\angle A = 180 - 50 - 20 = 110^\circ$$

$$\frac{110}{2} = 55 \text{ because } \overline{AD} \text{ bisects } \angle BAC$$

Finally $\angle ADC = 180 - 55 - 20 = 105^\circ$

3. If $\angle MCG$ is five times as large as $\angle H$ and $\angle M = 100^\circ$, find the measure of $\angle MCH$.

3. 55°



$$\angle MCG = 5x$$

$$\angle H = x$$

The exterior \angle is always equal to the sum of two remote interior \angle s.

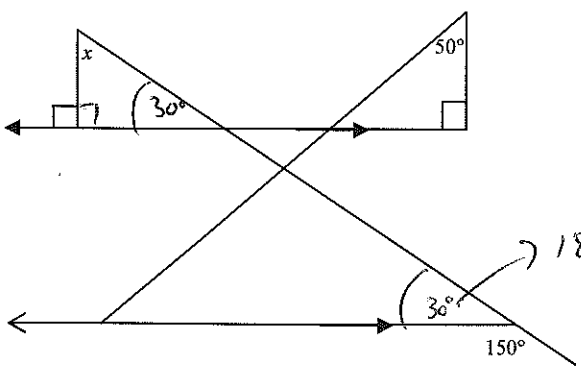
$$\begin{array}{r} 5x = 100 + x \\ -x \quad -x \\ \hline 4x = 100 \\ \frac{4x}{4} = \frac{100}{4} \end{array}$$

$x = 25$

Finally, $\angle MCH = 180 - 125 = 55^\circ$

4. Find the measure of $\angle x$.

4. 60°

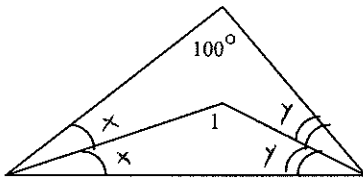


\parallel lines \Rightarrow corresponding \angle s are \cong

$$180 - 150 = 30$$

Finally, $180 - 30 - 90 = 60^\circ = x$

5. Find the measure of $\angle 1$.



Bigger Δ

$$\begin{array}{r} 100 + x + x + y + y = 180 \\ 100 + 2x + 2y = 180 \\ -100 \quad -100 \end{array}$$

$$\frac{2x + 2y}{2} = \frac{80}{2}$$

$$\boxed{x + y = 40}$$

5. 140°

Smaller Δ

$$x + y + \angle 1 = 180$$

$$\begin{array}{r} 40 + \angle 1 = 180 \\ -40 \quad -40 \end{array}$$

$$\angle 1 = 140^\circ$$

6. Given: The perimeter of ΔABC is 100. D, E, and F are midpoints.

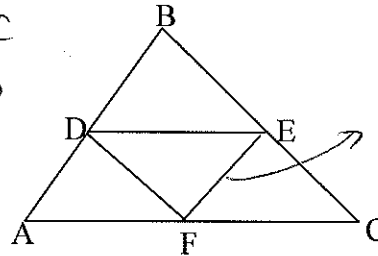
$$DE = x^2 - 3$$

$$EF = 4x - 1$$

$$DF = 5x + 2$$

Find AB.

Perimeter of $\Delta DFE = 50$



$$4(4) - 1 = 15$$

Finally $AB = 2(15) = 30$

$$x^2 - 3 + 4x - 1 + 5x + 2 = 50$$

$$\begin{array}{r} x^2 + 9x - 2 = 50 \\ -50 \quad -50 \end{array}$$

$$\begin{array}{r} x^2 + 9x - 52 = 0 \\ (x - 4)(x + 13) = 0 \end{array}$$

$$x - 4 = 0 \text{ or } x + 13 = 0$$

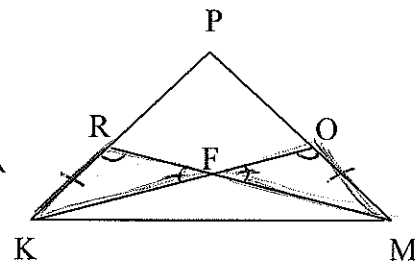
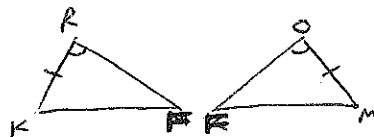
$$\boxed{x = 4} \text{ or } x = -13$$

Ex: $4(-13) - 1 = -53$, no negative sides in Δ .
Discard $x = -13$

7. Given: $KR \cong MO$

$$\angle KRF \cong \angle MOF$$

Prove: $KO \cong MR$



Statements	Reasons
① $KR \cong MO$ $\angle KRF \cong \angle MOF$	① Given
② $\angle RFK \cong \angle OFM$	② Vertical \angle s are \cong
③ $\Delta KRF \cong \Delta MOF$	③ AAS
④ $KF \cong MF$	④ CPCTC
⑤ $RF \cong OF$	⑤ CPCTC
⑥ $KO \cong MR$	⑥ Addition property of \angle s.