

Spiral Review:

1. Find the distance between the points.

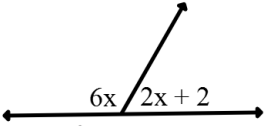
a.) x_1, y_1, x_2, y_2
 $(-3, 4) (1, 9)$

$$d = \sqrt{(1+3)^2 + (9-4)^2}$$

$$= \sqrt{(4)^2 + (5)^2}$$

$$= \sqrt{16+25} = \sqrt{41}$$

2. Solve for x.

a.) 

linear pair
 $6x + 2x + 2 = 180$
 $8x + 2 = 180$
 $\quad -2 \quad -2$
 $\hline x = 22.25$

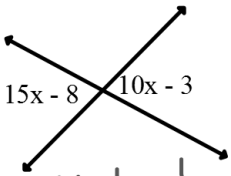
$\frac{8x}{8} = \frac{178}{8}$

b.) x_1, y_1, x_2, y_2
 $(-12, -4) (6, 0)$

$$d = \sqrt{(6+12)^2 + (0+4)^2}$$

$$= \sqrt{(18)^2 + (4)^2}$$

$$= \sqrt{324+16} = \sqrt{340}$$

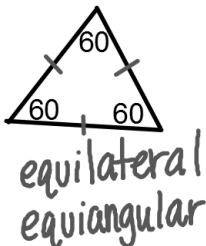
b.) 

vertical
 $15x - 8 = 10x - 3$
 $\quad -10x \quad -10x$
 $\hline 5x - 8 = -3$
 $\quad +8 \quad +8$
 $\hline 5x = 5$
 $\quad \frac{5x}{5} = \frac{5}{5}$ $x = 1$

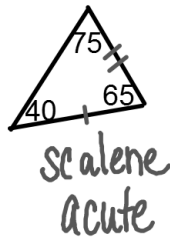
Review 4.1

Classify each triangle by sides and angles.

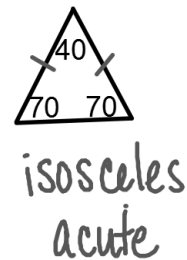
1.



2.

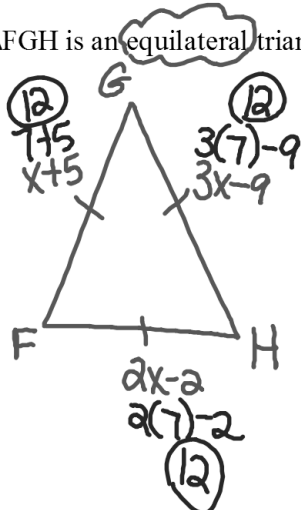


3.



4. Find x and the measure of each side.

$\triangle FGH$ is an equilateral triangle with $FG = x + 5$, $GH = 3x - 9$, and $FH = 2x - 2$.



$$x+5 = 3x-9$$

$$\quad -3x \quad -3x$$

$$\hline -x+5 = -9$$

$$\quad +2 \quad +2$$

$$\hline -x = -12$$

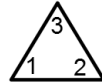
$$\quad \frac{-x}{-1} = \frac{-12}{-1}$$

$$x = 12$$

$x = 7$

p.246 4.2 Angles of Triangles

Triangle Angle- Sum Theorem:



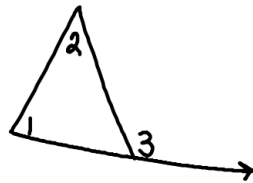
The sum of the measures of the angles of a triangle is 180.

ex.) $m\angle 1 + m\angle 2 + m\angle 3 = 180$

The key to solving these problems are knowing:

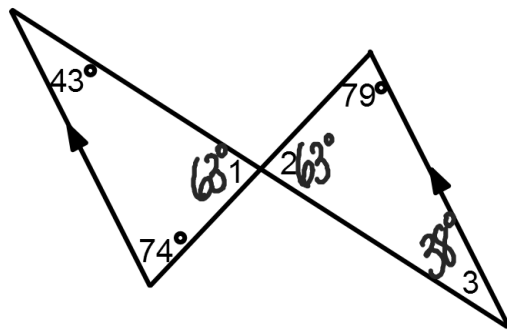
- 1.) Vertical angles are \cong . "X"
- 2.) Linear pairs = 180. $\leftarrow \overset{\curvearrowright}{/} \rightarrow$ (line)
- 3.) The angles of a triangle = 180. \triangle

Do you know what these look like?



$$m\angle 3 = m\angle 1 + m\angle 2$$

Example 1: Find the measure of each numbered angle.



(use $\Delta = 180$)

$$m\angle 1 + 74^\circ + 43^\circ = 180^\circ$$

$$\begin{array}{r} m\angle 1 + 117 = 180 \\ -117 \quad -117 \\ \hline m\angle 1 = 63^\circ \end{array}$$

(use vertical \angle s)

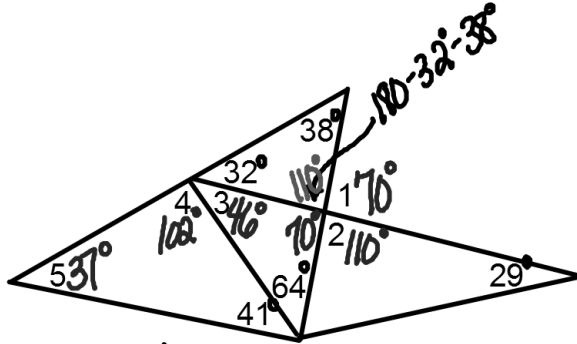
$$m\angle 2 = 63^\circ$$

(use $\Delta = 180$)

$$180 - 63 - 79$$

$$m\angle 3 = 38^\circ$$

Example 2: Find the measure of each numbered angle.



(use verticals & s)

$$m\angle 2 = 110^\circ$$

(use linear pair)

$$m\angle 1 + 110 = 180$$

$$-110 \quad -110$$

$$m\angle 1 = 70^\circ$$

(use $\Delta = 180$)

$$180 - 70 - 64$$

$$m\angle 3 = 46^\circ$$

(use linear pair)

$$180 - 32 - 46$$

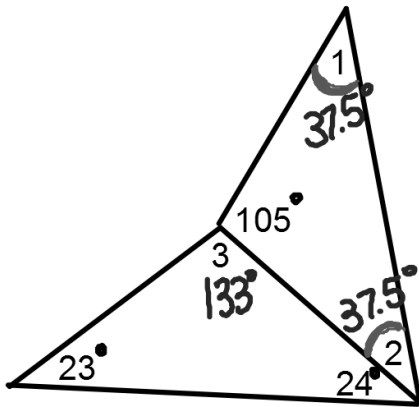
$$m\angle 4 = 102^\circ$$

(use $\Delta = 180$)

$$180 - 102 - 41$$

$$m\angle 5 = 37^\circ$$

Example 3: Find the measure of each numbered angle.



(use $\Delta = 180$)

$$180 - 23 - 24$$

$$m\angle 3 = 133^\circ$$

(use $\Delta = 180$)

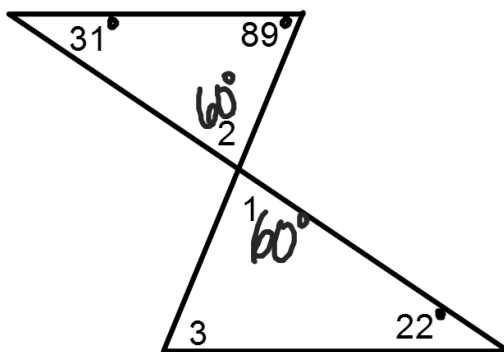
$$180 - 105 = 75^\circ$$

$$\frac{75}{2} = 37.5^\circ$$

$$m\angle 1 = 37.5^\circ$$

$$m\angle 2 = 37.5^\circ$$

Example 4: Find the measure of each numbered angle.



(use $\Delta = 180$)

$$180 - 31 - 89$$

$$m\angle 2 = 60^\circ$$

(use vertical \angle s)

$$m\angle 1 = 60^\circ$$

(use $\Delta = 180$)

$$180 - 60 - 22$$

$$m\angle 3 = 98^\circ$$

Turn-in:

p. 250 (1, 3, 9- 11)

Homework:

wk bk 4.2