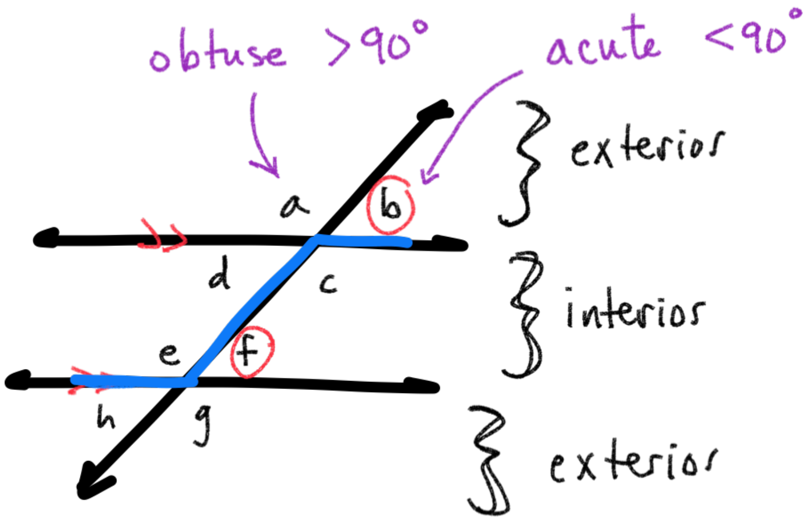
M-G Geometry Week 12 12/1



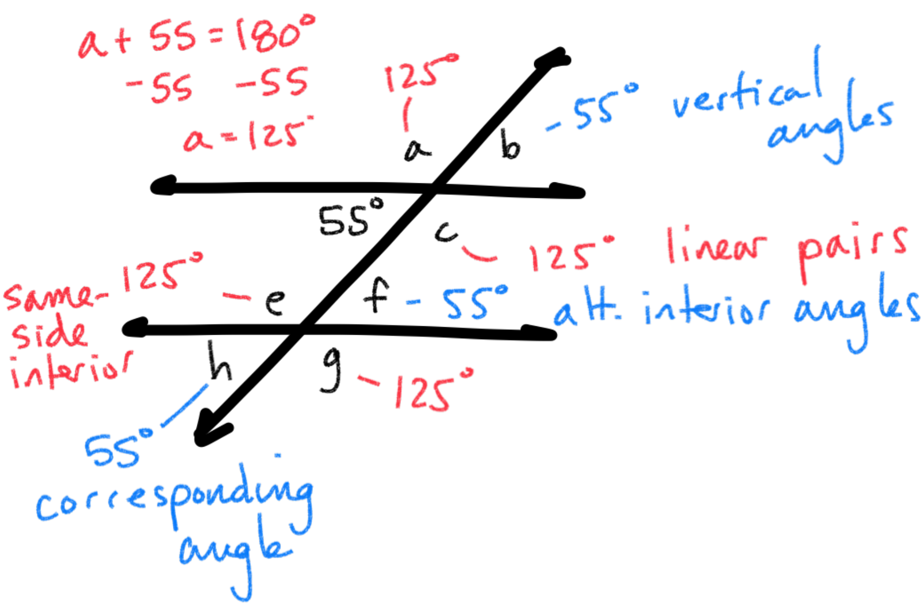
a & b → linear pair
supplemental
obtuse + acute
supplemental
a + b = 180°

b & d – vertical angles
congruent
acute & acute

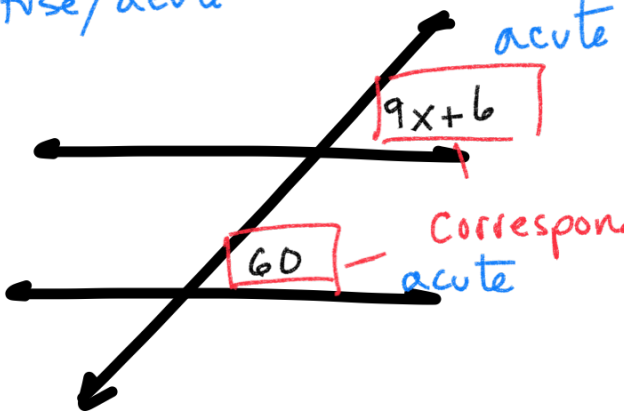
b & f – corresponding angles
congruent

c & e – alternate interior angles
congruent

d & e – same-side interior
supplemental



obtuse/acute



option #1: Congruent

$9x+6=60$

~~option #2: Supplemental~~

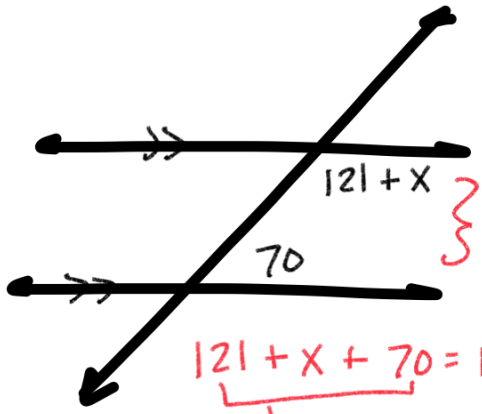
~~$9x+6+60=180^\circ$~~

$9x+6=60$

$-6 \quad -6$

$\frac{9x}{9}=\frac{54}{9}$ $\quad x=6$

1.)



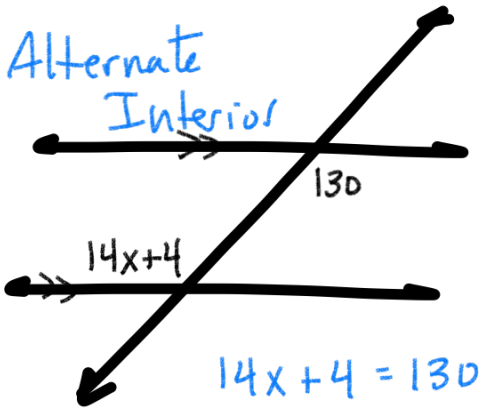
$121+x+70=180$

$191+x=180$ $\quad x=-11$

$-191 \quad -191$

2.)

Alternate Interior



$14x+4=130$

$-4 \quad -4$

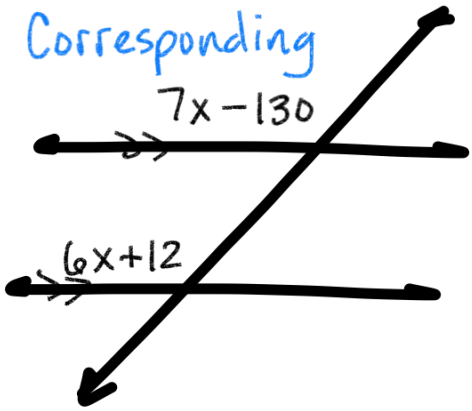
$14x=126$

$\frac{14x}{14}=\frac{126}{14}$

$x=9$

3.)

Corresponding



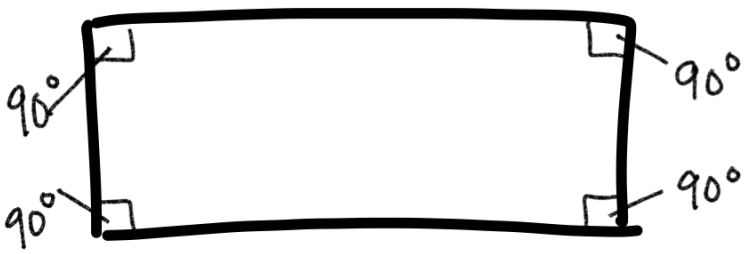
$7x-130=6x+12$

$+130 \quad +130$

$7x=6x+142$

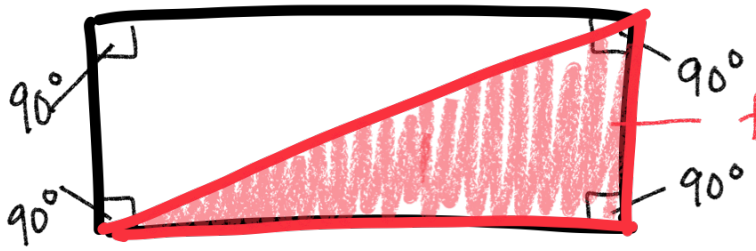
$-6x \quad -6x$

$x=142$



Rectangle

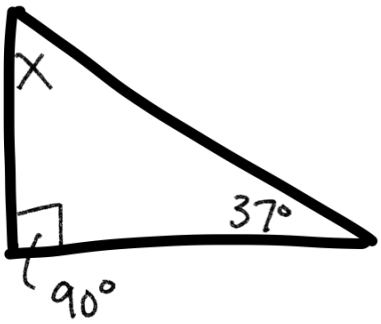
Sum of the interior angles of a rectangle $= 4(90^\circ) = 360^\circ$



sum of the interior angles for a triangle

$$\frac{360^\circ}{2} = 180^\circ$$

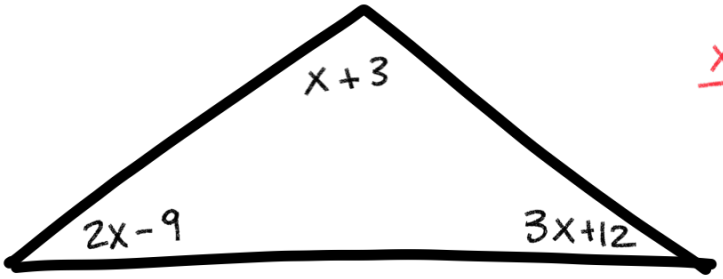
SUM OF INTERIOR ANGLES FOR A TRIANGLE = 180°



$$X + 37 + 90 = 180$$

$$X + 127 = 180$$
$$-127 \quad -127$$

$$\boxed{X = 53}$$



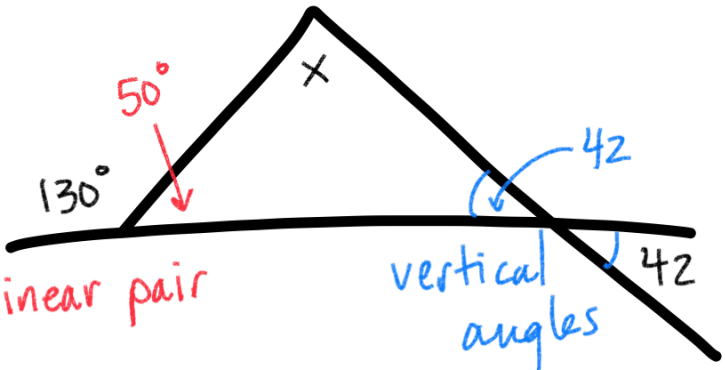
Not drawn to scale

$$X + 3 + 2X - 9 + 3X + 12 = 180$$

$$6X + 6 = 180$$
$$-6 \quad -6$$

$$\frac{6X}{6} = \frac{174}{6}$$

$$\boxed{X = 29}$$



$50 + 42 + x = 180°$

$92 + x = 180°$

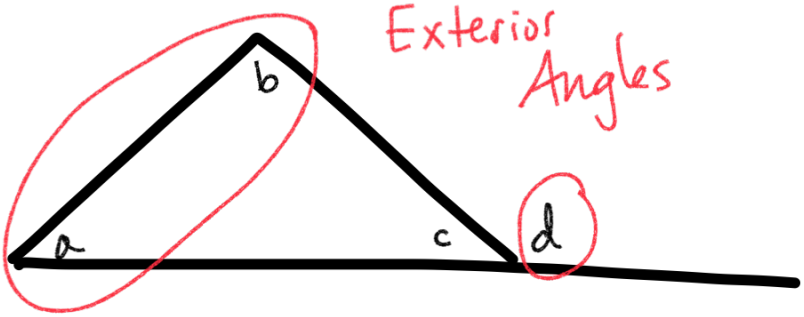
$-92 \quad -92$

$x = 88°$

$130 + \_\_ = 180$

$-130 \quad -130$

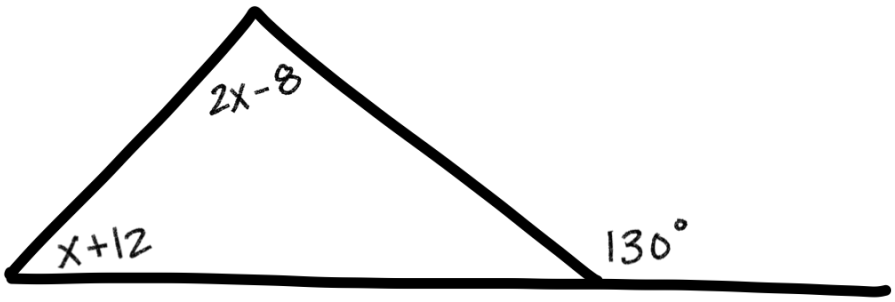
$\_\_ = 50$



$a + b + c = 180°$

$d + c = 180°$

$a + b = d$



$x + 12 + 2x - 8 = 130$

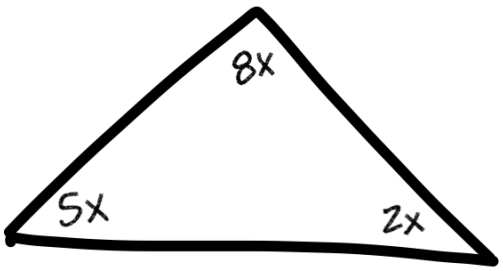
$3x + 4 = 130$

$-4 \quad -4$

$\frac{3x}{3} = \frac{126}{3}$

$x = 42$

1.)

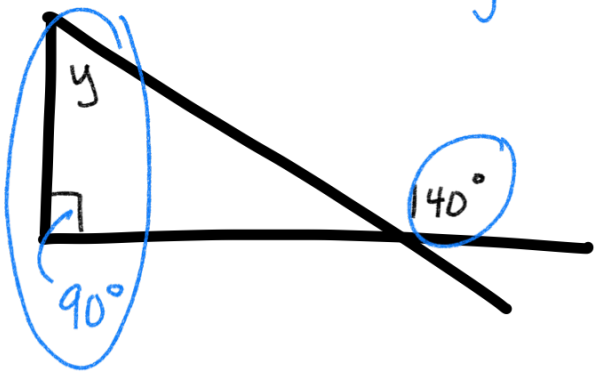


$5x + 8x + 2x = 180$

$\frac{15x}{15} = \frac{180}{15}$

$\boxed{x = 12}$

2.) Exterior Angles



$y + 90 = 140$

$-90 \quad -90$

$\boxed{y = 50}$