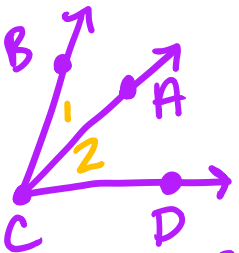
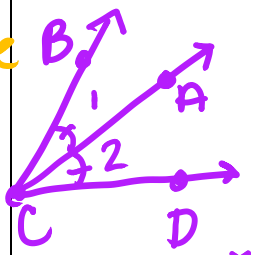
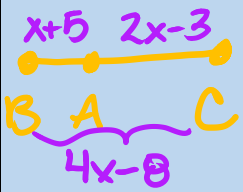
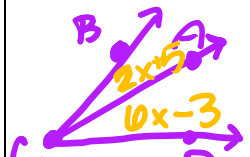
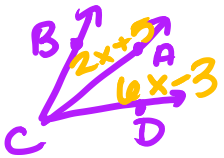
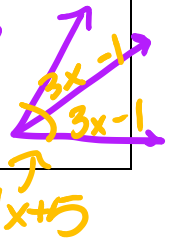
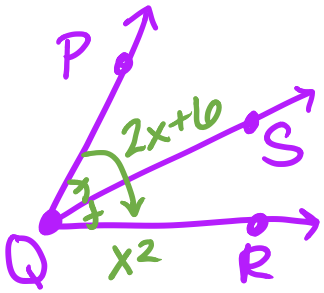
DAY 4 - 1.2 & 1.3 RECAP

MEASURING AND CONSTRUCTING SEGMENTS AND ANGLES

	BETWEEN SEGMENT ADDITION POSTULATE	MIDPOINT (BISECT)	INTERIOR ANGLE ADDITION POSTULATE	ANGLE BISECTOR
DEFINITION	A is between B & C anywhere BA + AC = BC part + part = whole	A is midpt of B & C (exactly in the middle) OR A bisects B & C BA = AC part = part BA + AC = BC since A is b/w B & C	A is in the int. of ∠BCD anywhere  m∠1 + m∠2 = m∠BCD part + part = whole	$\overrightarrow{CA}$ bisects ∠BCD  ∠BCA = ∠ACD part = part OR m∠1 + m∠2 = m∠BCD
EXAMPLE  	BA = x+5 AC = 2x-3 BC = 4x-8 Find BA 3x+2 = 4x-8 x = 10 BA = 10+5 = 15	BA = x+5 AC = 2x-3 Find BA x = 8 OR BA = 3y BC = 42 Find BA 3y + 3y = 42 y = 7	∠BCA = 2x+5 ∠BCD = 50 ∠ACD = 6x-3 Find m∠BCA  17 2x+5+6x-3 = 50 8x+2 = 50 x = 6	∠BCA = 2x+5 ∠ACD = 6x-3 Find m∠BCD  OR ∠BCD - 4x+5 ∠BCA = 3x-1 Find m∠BCD 

PARTNER PRACTICE:

1. $\overrightarrow{QS}$ bisects $\angle PQR$.
   $\angle PQR = x^2$
   $\angle PQS = 2x + 6$
   Find $\angle PQR$



part + part = whole

$2x+6+2x+6 = x^2$

$4x+12 = x^2$

$0 = x^2-4x-12$

$0 = (x-6)(x+2)$

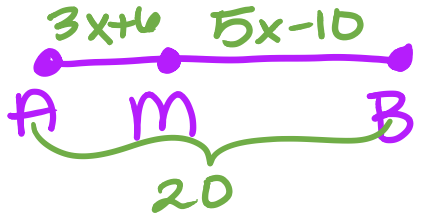
$x = 6 \quad x = -2$

$m\angle PQR = 6^2 = 36°$

$m\angle PQR = (-2)^2 = 4°$

$\boxed{m\angle PQR = 36° \text{ or } 4°}$

2. M is between A and B.
   AM = 3x + 6
   MB = 5x – 10
   AB = 20
   Find AM.



part + part = whole

$3x+6+5x-10 = 20$

$8x-4 = 20$

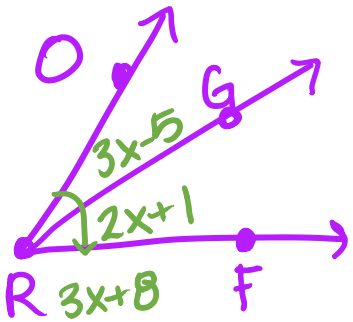
$8x = 24$

$x = 3$

$AM = 3(3)+6$

$\boxed{AM = 15}$

3. G is in the interior of $\angle ORF$.
   $\angle FRG = 2x + 1$
   $\angle GRO = 3x – 5$
   $\angle ORF = 3x + 8$
   Find $\angle FRG$.



part + part = whole

$2x+1+3x-5 = 3x+8$

$5x-4 = 3x+8$

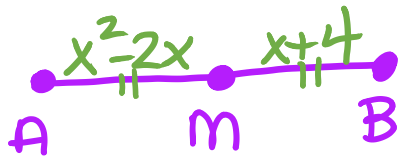
$2x = 12$

$x = 6$

$m\angle FRG = 2(6)+1 = 13$

$\boxed{m\angle FRG = 13°}$

4. M is the midpoint of $\overline{AB}$.
   $AM = x^2 - 2x$
   $MB = x + 4$
   Find AB.



$x^2-2x = x+4$

$x^2-3x-4 = 0$

$(x-4)(x+1) = 0$

$x = 4, x = -1$

$AB = 2(x+4)$

$= 2(3) = 6$

$AB = 2(8) = 16$

$\boxed{AB = 6 \text{ or } 16}$