Geometry Unit 4

Test Review/Breakdown

Identify Special Angle Pairs – 4 Questions

Use a diagram to name a pair for the given description

1. Same-side interior angles.
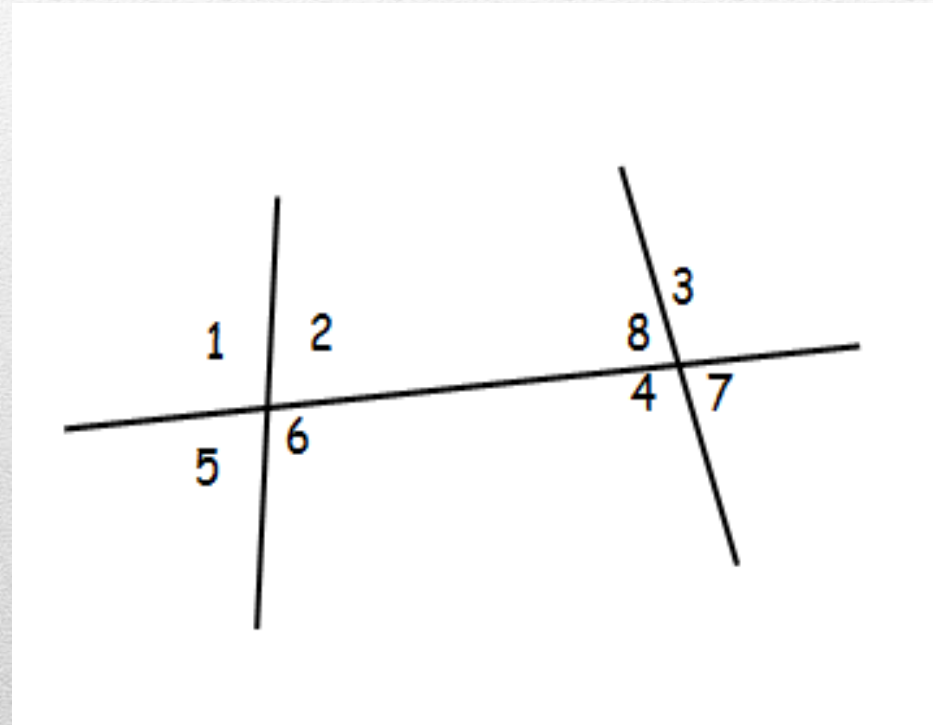
   < 2 and < 8

2. Alternate interior angles.

   < 6 and < 8

3. Corresponding angles.

   < 6 and < 7

4. Alternate exterior angles.

   < 3 and < 5

5.) If $m < 6 = 85°$, find $m < 4.$

$$m < 4 = 85°$$

6.) If $m < 1 = 127°$, find $m < 10.$

$$m < 10 = 53°$$
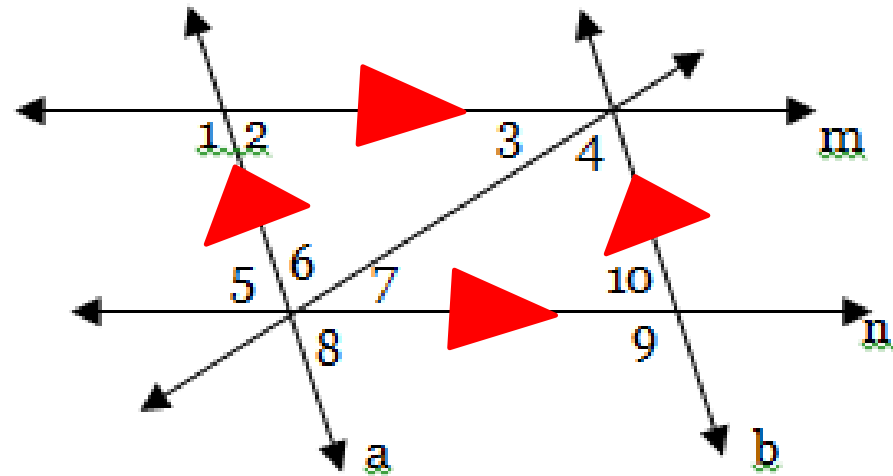
Using the same Diagram make and solve equations – 2 Questions

5.) $m < 2 = 7x - 3, m < 5 = 6x + 8$

Eq: $7x - 3 = 6x + 8$ (Why?)

$$x = 11$$
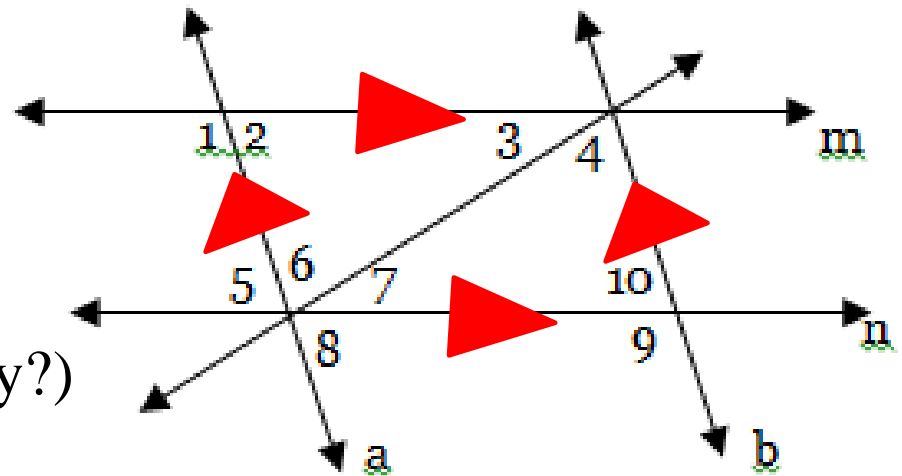
6.) If $m < 4 = 11x - 2,$
$m < 7 = 14x + 7$

Eq: $11x - 2 + 14x + 7 = 180$ (Why?)
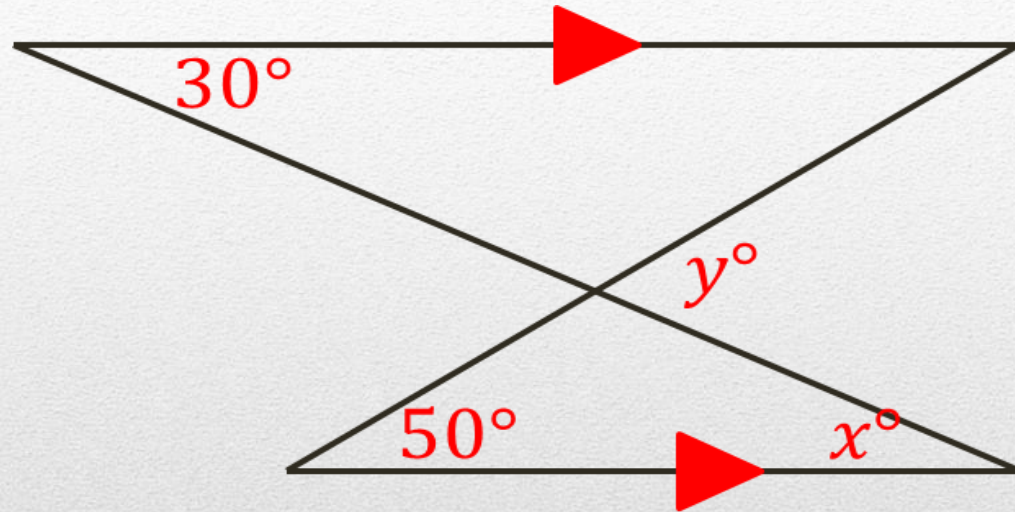
$$25x + 5 = 180$$
$$25x = 175$$
$$x = 7$$

Given Parallel Lines, solve for missing variables – 5 Questions

For x: Notice that x and 30° are alternate interior angles. Thus

$$x = 30$$

For y: y is and exterior angle of the top interior angle from the bottom triangle. So by theorem 3-12 we can write

$$50 + x = y$$
$$50 + 30 = y$$
$$y = 80$$

Parallel Lines Worksheet

- Use the given information to name a pair of segments that must be parallel. If no such segments exist, write *none*.

- Hint: Use the Angles given in the problem. If they correctly make one of the special pairs we talked about in class (Alt. Int. <'s, Alt. Ext. <'s, S-S Int. <'s, or Corr. <'s) then you do have parallel segments.

1. $m < 2 + m < 10 = 180$
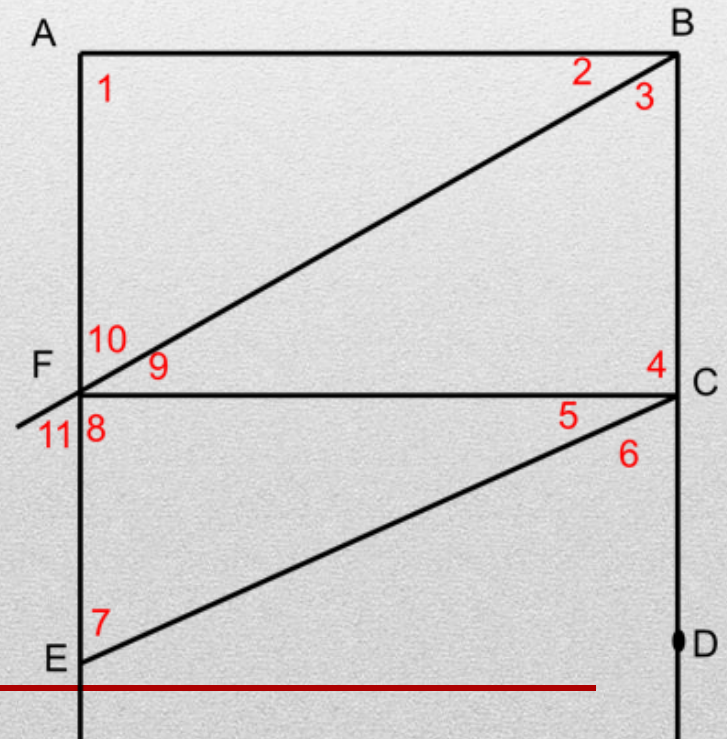
$\overline{AF} \parallel \overline{BC}$

2. $m < 1 = m < 4 = 90$

None

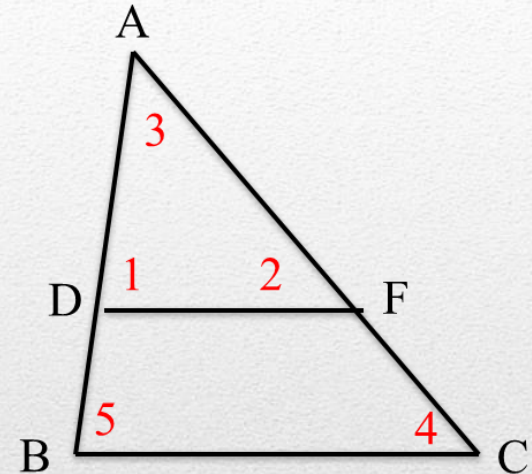3. $< 6 \cong < 7$ $\overline{EF} \parallel \overline{CD}$

Proofs – 2 Questions

You will have two proofs to fill in. You will have some statements and reasons filled in, then you fill in the rest.

Given: $\overline{DF} \parallel \overline{BC}$

Prove: $m<3 + m<4 + m<5 = 180$

Statements	**Reasons**
1. $m<3 + m<1 + m<2 = 180$	1. <'s of a Triangle add to 180
2. $\overline{DF} \parallel \overline{BC}$	2. Given
3. $<1 \cong <5$ or $m<1 = m<5$; $<2 \cong <4$ or $m<2 = m<4$	3. w/parallel lines, corr. <'s are $\cong$
4. $m<3 + m<4 + m<5 = 180$	4. Substitution Property