

**Pre-test: Constructions**

*Section 1: Show your knowledge of Euclid's Elements.*

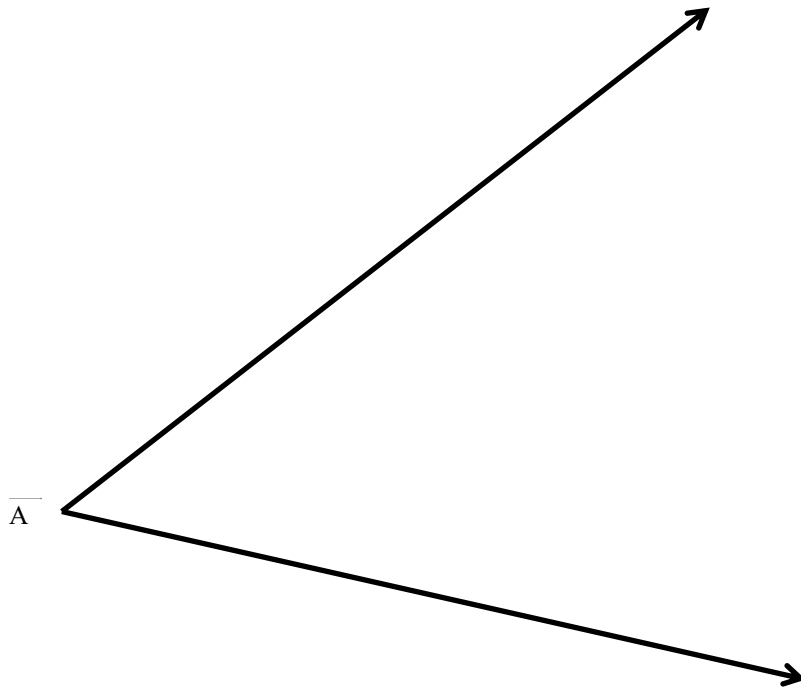
*Make the required construction using only a compass and straightedge*

*Extra: State the steps of the construction*

**Construct a perpendicular bisector of the given line segment**



**Construct an angle bisector of the given angle.**



**Section 2: Vocabulary**

Write the term that best completes each statement.

1. Points that are all located on the same line are \_\_\_\_\_.
2. A flat surface is a(n) \_\_\_\_\_.
3. The sum of the measures of supplementary angles is \_\_\_\_\_.
4. Two angles with a common side and vertex, but no overlap are called \_\_\_\_\_. In other words, they are next to each other.
5. Two or more line segments of equal measure are \_\_\_\_\_.
6. A(n) \_\_\_\_\_ is a portion of a line that includes two points and all of the collinear points between the two points.
7. A(n) \_\_\_\_\_ is a portion of a line that begins with a single point and extends infinitely in <sup>[L]</sup><sub>SEP</sub> one direction.
8. The measures of complementary angle sum to \_\_\_\_\_.
9. Two or more lines located in the same plane are \_\_\_\_\_.

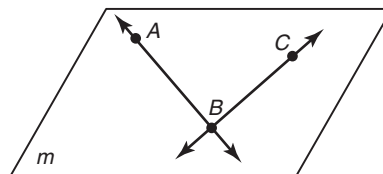
**Homework: Pre-Quiz problems**

1. In the figure, given that  $\overline{AB} \cong \overline{BC}$ ,  $AB = x + 7$ ,  $BC = 11$ . Solve for  $x$ ,  $AB$ , and  $BC$ . Show each step.

Geometry (1 pt):

Substitute (1 pt):

Solve algebra:



$$x = \quad (1 \text{ pt})$$

$$AB = \quad (1 \text{ pt})$$

$$BC = \quad (1 \text{ pt})$$

Check (1 pt):

2. Given two complementary angles,  $\angle ABC$  and  $\angle DEF$ . If  $m\angle DEF = 55^\circ$  then solve for the measure of  $\angle ABC$ . Show the steps.

Geometry (1 pt):

Substitute (1 pt):

Solve algebra (1 pt):

$$m\angle ABC =$$

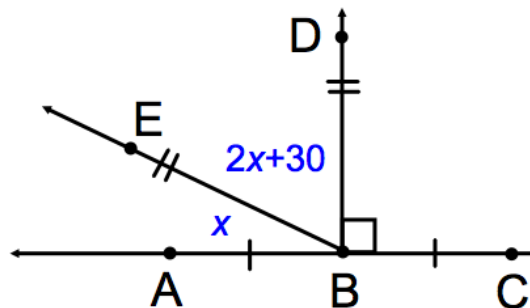
Check (1 pt):

3) Given the figure,  $m\angle ABE = x$  and  $m\angle DBE = 2x + 30$ . Solve for  $x$  and the angle measures. Show each the step.

Geometry (1 pt):

Substitute (1 pt):

Solve algebra:



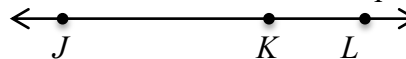
$$x = \quad (1 \text{ pt})$$

$$m\angle ABE = \quad (1 \text{ pt})$$

$$m\angle DBE = \quad (1 \text{ pt})$$

Check (1 pt):

4) Given that  $JK = 5x$ ,  $KL = x + 2$ , and  $JL = 20$ . Find the value of  $x$ ,  $JK$ , and  $KL$ . Show steps.



Geometry (1 pt):

Substitute (1 pt):

Solve algebra:

$$x = \quad (1 \text{ pt})$$

$$JK = \quad (1 \text{ pt})$$

$$KL = \quad (1 \text{ pt})$$

Check (1 pt):

**18)**  $\angle ABC$  and  $\angle DEF$  are congruent angles.  $m\angle ABC = 3x - 20$ , and  $m\angle DEF = 2x + 10$ . Find  $x$  and the measure of each angle.

Geometry:

Substitute:

Solve algebra:

$$x =$$

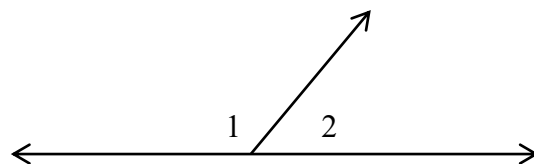
$$m\angle ABC =$$

$$m\angle DEF =$$

Check:

**19)** Given  $m\angle 1 = 10x + 40$ ,  $m\angle 2 = 2x + 20$  as shown in the figure. Solve for  $x$  and the measures of the two angles. Show the steps and check your result.

Geometry:



Substitute:

Solve algebra:

$$x =$$

$$m\angle 1 =$$

$$m\angle 2 =$$

Check: