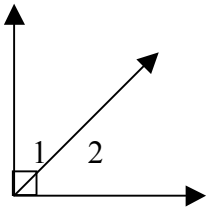
Topic 2 Test: Review

Name: _____

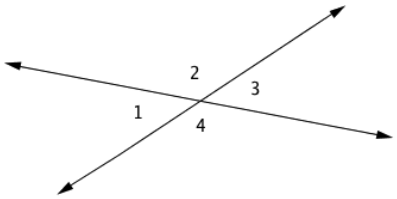
For each of the following vocabulary words, draw a diagram, write a definition and make a statement based on your diagram using proper symbols.

Vocabulary Word	Diagram	Definition	Statement
Complementary Angles		two angles that sum to 90°	$\angle 1 + \angle 2 = 90$
Supplementary Angles			
Adjacent Angles			
Perpendicular Lines			
Parallel Lines			
Perpendicular Bisector			

Vocabulary Word	Diagram	Definition	Statement
Congruent Angles			
Congruent Segments			
Transversal			
Vertical Angles			
Corresponding Angles			
Alternate Interior Angles			
Alternate Exterior Angles			
Same Side Interior Angles			

1. Each diagram shows congruent figures. Write congruence statements for each pair of congruent parts. There may be more than one for each diagram.

a.



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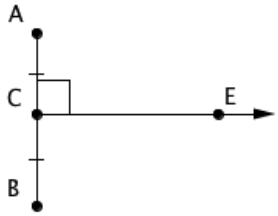
_____

b.



_____

_____

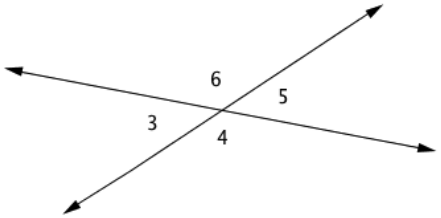
2. Using the diagram to the right:

a. Name one pair of vertical angles _____

b. Name one pair of adjacent angles _____

c. If $m\angle 3 = 57$, find the measure of:

$\angle 4$ = _____ $\angle 5$ = _____ $\angle 6$ = _____



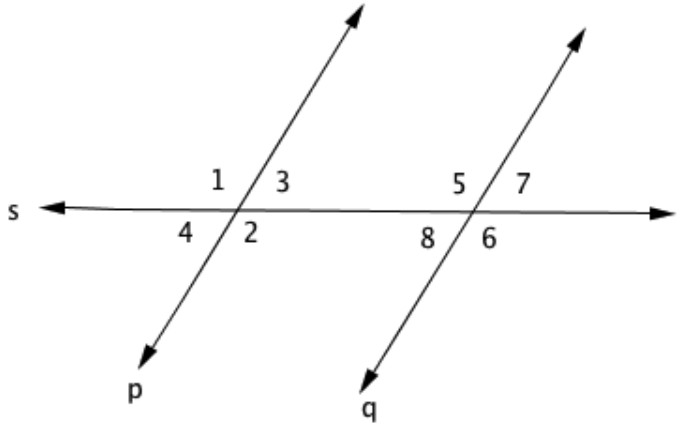
3. Find the complement and complement of the following angle measures:

a. 67°	Complement: _____	Supplement: _____
a. 89°	Complement: _____	Supplement: _____
a. 11°	Complement: _____	Supplement: _____
a. 134°	Complement: _____	Supplement: _____

4. Sketch a pair of parallel lines. Use proper symbols.

5. Sketch a pair of perpendicular lines. Use proper symbols.

6. Use the diagram below to answer the following questions.



a. Name the angle corresponding to $\angle 2$: _____

b. Name all pairs of alternate interior angles: _____ _____

c. Name one pair of vertical angles: _____

d. Name all pairs of same side interior angles: _____ _____

e. Name all pairs of alternate exterior angles: _____ _____

f. Which line is the transversal? _____

g. If $m\angle 3 = 72$ and $m\angle 7 = 72$, what do you know about lines *p* and *q*? Explain.

_____

h. What type of angles are $\angle 3$ and $\angle 7$? _____

7. Two vertical angles have measures of $7x + 22$ and $10x - 2$. Write an equation, solve for x, and find the measure of each angle.

x = _____

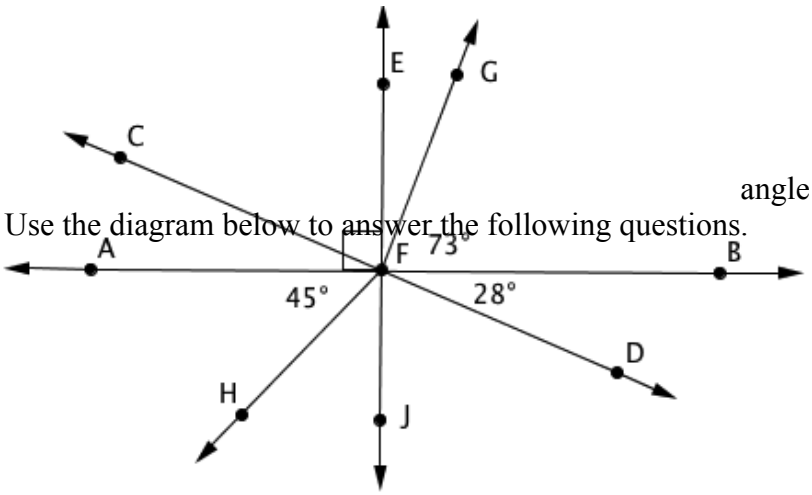
angle measures: _____ _____

8. Two supplementary angles have measures of $6x - 6$ and $9x - 24$. Write an equation, solve for x, and find the measure of each angle.

x = _____

angle measures: _____ _____

9. Use the diagram below to answer the following questions.



a. Find the measures of the following angles:

i. $m\angle HFJ$ = _____ ii. $m\angle JFD$ = _____ iii. $m\angle AFC$ = _____

iv. $m\angle CFB$ = _____ v. $m\angle CFE$ = _____ vi. $m\angle HFD$ = _____

vii. $m\angle EFG$ = _____ viii. $m\angle AFE$ = _____

b. Name one pair of complementary angles: _____

c. Name one pair of supplementary angles: _____

d. Name one pair of vertical angles: _____

e. Name one pair of perpendicular lines: _____

f. Is $\overrightarrow{FH}$ an angle bisector? Explain. _____

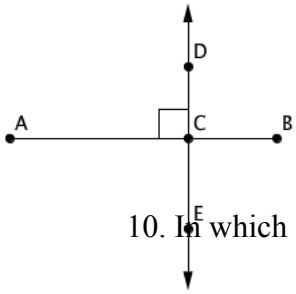
_____

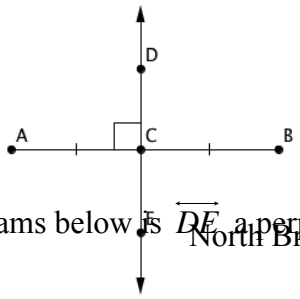
g. Are $\angle EFG$ and $\angle JFH$ vertical angles? Explain. _____

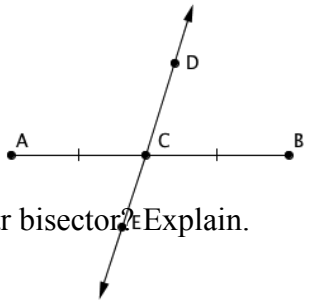
_____

h. Are $\angle AFC$ and $\angle AFB$ supplementary angles? Explain. _____

_____







10. In which of the diagrams below is $\overleftrightarrow{DE}$ a perpendicular bisector? Explain.

North Brookline

_____

_____

i. ii. iii.

South Brookline

11. In which of the diagrams above are $AD = DB$ and $AE = EB$? Explain.

_____

_____

12. Brookline is relocating its police station inside the town limits to be equidistant from South Brookline and North Brookline. In the picture below, draw in <u>all of the locations</u> where the new police station can be relocated.