

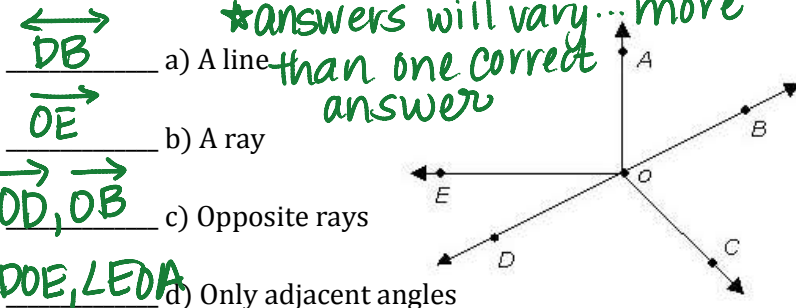
Geometry  
Chapter 1 Study Guide

Name: Key ☺  
Date: \_\_\_\_\_ Period: \_\_\_\_\_

1.1 Identify, name, and draw points, lines, segments, rays & planes. Apply basic facts about points, lines & planes.

Rate Your Understanding: 1 (Yikes!) 2 3 4 5 (I got this!)  
1

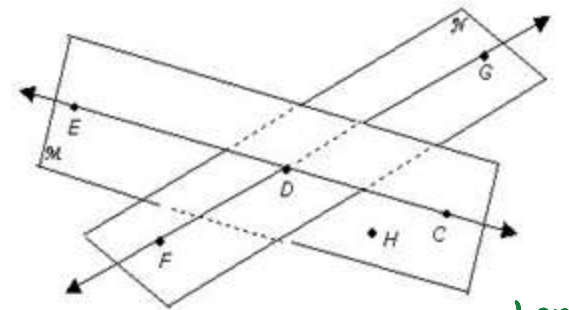
1) Use the figure below to name the following figures:



- \*answers will vary... more than one correct answer
- $\overleftrightarrow{DB}$  a) A line  
 $\overrightarrow{OE}$  b) A ray  
 $\overrightarrow{OD}, \overrightarrow{OB}$  c) Opposite rays  
 $\angle DOE, \angle EDA$  d) Only adjacent angles

$\angle DOC, \angle COB$  e) Adjacent and linear pair angles

2) Identify the plane containing D, E, and C.



plane HDC or plane HW

3) Circle Always, Sometimes, or Never. Draw a picture to support your answer.

If two planes cross, then they cross at a point.



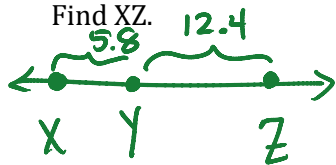
They cross at a line ☺

1.2 Use length and midpoint of a segment to solve algebraic problems.

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3

4) Y is between X and Z,  $XY = 5.8$  and  $YZ = 12.4$ .

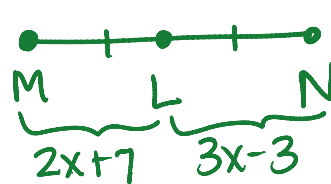
Find XZ.



$$XZ = 5.8 + 12.4$$

$$XZ = 18.2$$

5) L is the midpoint of  $\overline{MN}$ ,  $ML = 2x + 7$ , and  $LN = 3x - 3$ . Find ML, LN, and MN.



$$2x + 7 = 3x - 3$$

$$10 = x$$

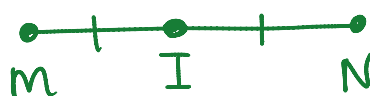
$$ML = 27$$

$$LN = 27$$

$$MN = 54$$

6) Circle Always, Sometimes, or Never. Draw a picture to support your answer.

If I is the midpoint of  $\overline{MN}$ , then I, M, and N are collinear.



← they will all have to lie on the same line.

1.3 Name and classify angles. Find the measure of the angle using interior and angle bisector.

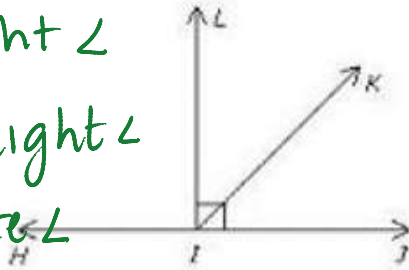
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7) Classify the following angles using the diagram below:

a)  $\angle LIJ = \text{right } \angle$

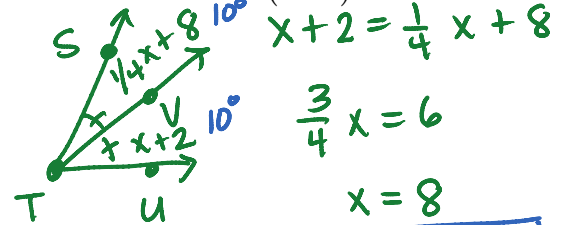
b)  $\angle HIJ = \text{straight } \angle$

c)  $\angle KIL = \text{acute } \angle$



8)  $\overline{TV}$  bisects  $\angle STU$ ,  $m\angle STV = \left(\frac{1}{4}x + 8\right)^\circ$

and  $m\angle UTV = (x+2)^\circ$ . Find  $\angle STU$ .



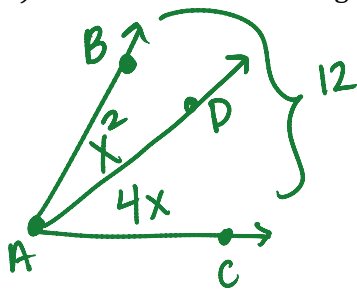
$$x + 2 = \frac{1}{4}x + 8$$

$$\frac{3}{4}x = 6$$

$$x = 8$$

$$m\angle STU = 20^\circ$$

9) D is in the interior of angle BAC.  $\angle BAD = x^2$ ,  $\angle CAD = 4x$ , and  $\angle BAC = 12$ . Find  $x$ .



$$x^2 + 4x = 12$$

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

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

$$x = -6 \quad x = 2$$

If  $x = -6$ , then

$$m\angle BAD = (-6)^2 = 36^\circ$$

$$+ m\angle DAC = 4(-6) = -24$$

If  $x = 2$ , then  
 $m\angle BAD = 4^\circ$  and  
 $m\angle DAC = 4(2) = 8^\circ$

1.4 Identify adjacent, vertical, complementary, and supplementary angles. Find measures of pairs of angles.

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10)  $m\angle F = 109^\circ$ . Find the measure of the supplement of  $m\angle F$ .

$$180 - 109 = 71^\circ$$

11)  $m\angle K = (6x + 12)^\circ$ . Find the measure of the complement of  $\angle K$ .

$$90 - (6x + 12)$$

$$90 - 6x - 12$$

$$(78 - 6x)^\circ$$

12)  $m\angle ABC = (6x + 8)^\circ$  and  $m\angle DEF = (12x - 8)^\circ$ .

If  $\angle ABC$  and  $m\angle DEF$  are supplementary, find the measure of each angle.

$$6x + 8 + 12x - 8 = 180$$

$$18x = 180$$

$$x = 10$$

$$m\angle ABC = 6(10) + 8 = 68^\circ$$

$$m\angle DEF = 12(10) - 8 = 112^\circ$$

13) If  $m\angle 1 = 5x + 32$  and  $m\angle 3 = 3x + 64$  find  $m\angle 4$ .

$$3x + 64 = 5x + 32$$

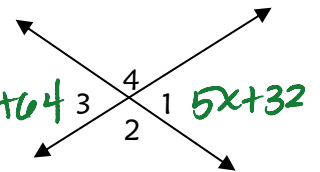
$$-2x = -32$$

$$x = 16$$

$$m\angle 3 = 3(16) + 64 = 112^\circ$$

$$m\angle 4 = 180 - 112$$

$$m\angle 4 = 68^\circ$$



14) A supplement of an angle is 4 more than three times the complement of the angle. Find the measure of the complement of the angle.

angle =  $x^\circ$   
 supp =  $180 - x$   
 comp =  $90 - x$

$$180 - x = 3(90 - x) + 4$$

$$180 - x = 270 - 3x + 4$$

$$180 - x = 274 - 3x$$

$$2x = 94$$

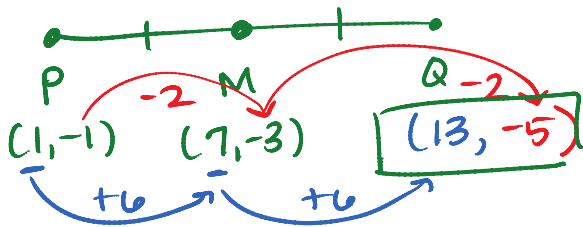
$$x = 47$$

angle =  $47^\circ$   
 comp =  $90 - 47$   
 =  $43^\circ$

1.6 Apply the midpoint and distance formulas.

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15) M is the midpoint of PQ. P is at (1, -1) and M is at (7, -3). Find the coord. of Q.



16) Find the distance of  $\overline{PQ}$  with endpoints P(1, -1) and Q(7, -3).

$$D = \sqrt{(7-1)^2 + (-3+1)^2}$$

$$= \sqrt{6^2 + (-2)^2}$$

$$= \sqrt{36 + 4}$$

$$= \sqrt{40}$$

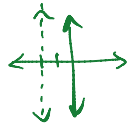
$D \approx 6.32$

17) Identify the slope given the points (-5, 6) and (-4, 0).

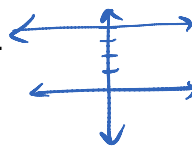
$$m = \frac{6 - 0}{-5 - (-4)} = \frac{6}{-1}$$

$m = -6$

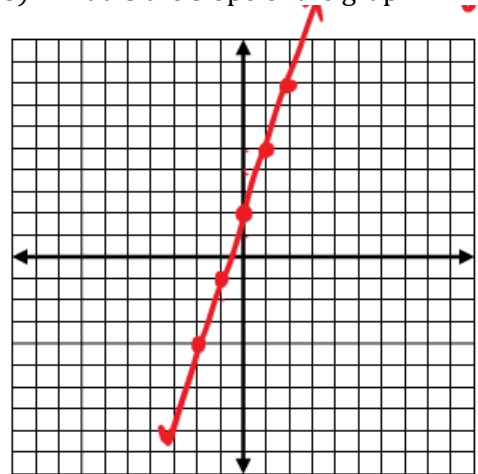
19) The slope of the line  $x = -2$  is undefined.



20) The slope of the line  $y = 4$  is zero.



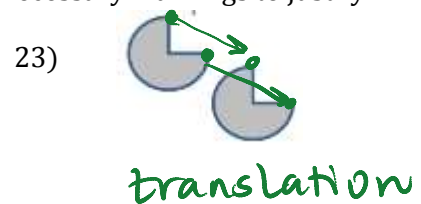
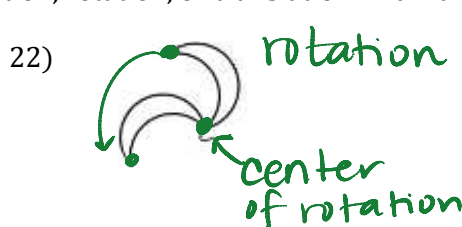
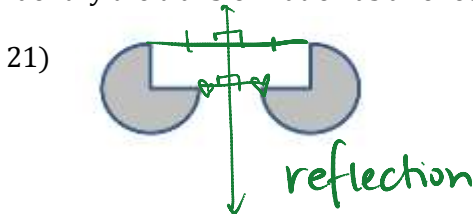
18) What is the slope of the graph?



1.7 Identify reflections, rotations, and translations. Graph transformations in the coordinate plane.

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Identify the transformation as a reflection, rotation, or translation. Draw all necessary markings to justify.



Remember, completing the study guide is not enough practice!

Make sure to look over your notes, homework, and in-class assignments to prepare for the Chapter test!!!