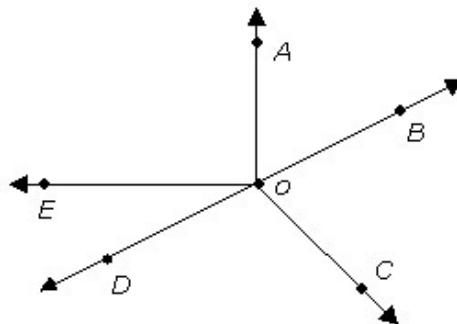NAME: _____ Key _____

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!)

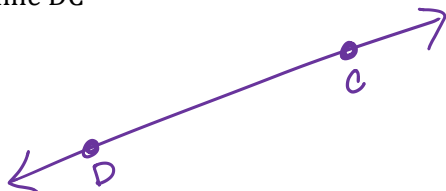1) Use the figure below to name the following figures:

_____$\overleftrightarrow{DB}$_____ a) A line

_____$\overrightarrow{OA}$_____ b) A ray

_____$\overrightarrow{OD}$_____ and _____$\overrightarrow{OB}$_____ c) Opposite rays

_____$\angle EOD$_____ and _____$\angle AOE$_____ d) Only adjacent angles

_____$\angle BOC$_____ and _____$\angle COD$_____ e) Adjacent and linear pair angles
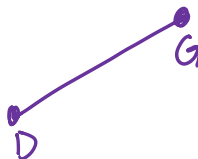
answers vary

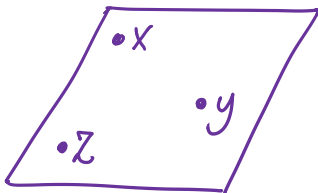2) Draw and label the following:

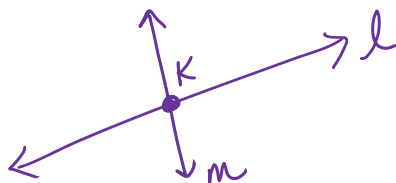a) line DC

b) Segment DG

c) plane XYZ

d) collinear points A, B, and C

e) lines l and m interesting at point K

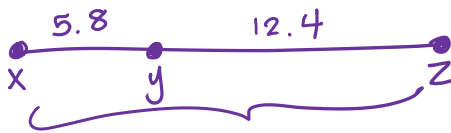f) ray $\overrightarrow{AB}$

3) Circle Always, Sometimes, or Never.

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

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

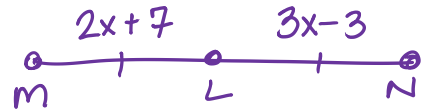Rate Your Understanding: 1 (Yikes!) 2 3 4 5 (I got this!)

4) Y is between X and Z, XY = 5.8 and YZ = 12.4. Find XZ. (Draw a picture)

5.8   12.4

X   y   Z

$XZ = 5.8 + 12.4 = 18.2$

$XZ = 18.2$

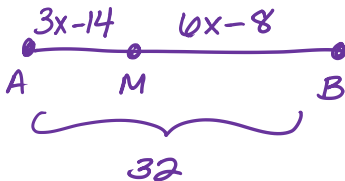5) L is the midpoint of $\overline{MN}$, ML = 2x + 7, and LN = 3x – 3. Find ML, LN, and MN.

2x + 7   3x−3

m   L   N

$2x + 7 = 3x - 3$

$10 = x$

$ML = 2(10) + 7$

$ML = 27$ $LN = 27$

6) M is between A and B. AM = 3x-14 , MB = 6x-8, and AB = 32. Solve for x and find AM.

3x−14   6x−8

A   M   B

32

$MN = 27 + 27$

$MN = 54$

$3x - 14 + 6x - 8 = 32$

$9x - 22 = 32$

$+22$

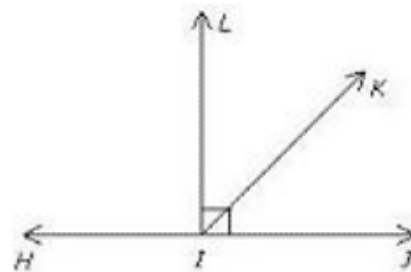$\dfrac{9x}{9} = \dfrac{54}{9}$

$x = 6$

$AM = 3(6) - 14$

$18 - 14$

$AM = 4$

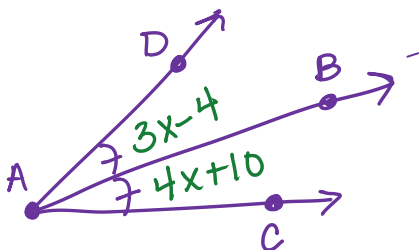1.3 Name and classify angles. Find the measure of the angle using interior and angle bisector.   \

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

7) Classify the following angles using the diagram below:

a) ∡LIJ Right ∡

b) ∡HIJ Straight ∡

c) ∡KIL acute ∡

L

K

H   I   J

8) $\overrightarrow{AB}$ bisects ∠DAC. ∠DAB = 3x − 4 and ∠BAC = 4x + 10. Find ∠DAC.

D

B

3x−4

4x+10

A

C

$3x - 4 = 4x + 10$

$14 = x$

∠DAB = 3(14) − 4

= 38

∠DAC = 38 + 38 = 76

9) H is in the interior of ∠QRS. If the m∠QRH = 5x + 1, m∠HRS = 76 and m∠QRS = 12x, solve for x and find the m∠QRH.
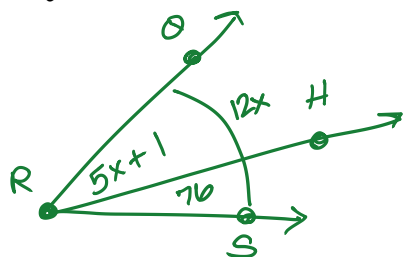
$$5x+1+76=12x$$
$$5x+77=12x$$
$$77=7x$$
$$\boxed{x=11}$$

$$\angle QRH = 5x+1$$
$$= 5(11)+1$$
$$\boxed{\angle QRH = 56}$$

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

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

10) Use the diagram below to name the following:
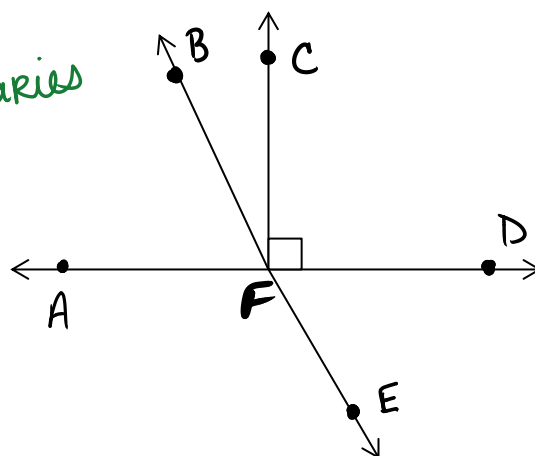
Name a pair of adjacent angles: ∠CFB and ∠BFA

Name a linear pair: ∠AFE and ∠EFD

Name vertical angles: ∠AFB and ∠DFE

Name a pair of supplementary angles: ∠AFE and ∠EFD

Name a pair of complementary angles: ∠CFB and ∠BFA

Name a pair of nonadjacent angles: ∠CFB and ∠DFE

varies

11) m∠F = 109°. Find the measure of the supplement of ∠F.

$$180$$
$$-109$$
$$\boxed{71°}$$

12) m∠K = (6x +12)°. Find the measure of the complement of ∠K.

$$90-\angle K$$
$$90-(6x+12)$$
$$90-6x-12$$
$$\boxed{78-6x}$$

13) m∠ABC = (6x + 8) and m∠DEF = (12x - 8). If ∠ABC and ∠DEF are supplementary, find the measure of each angle.

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

$18x = 180$

$x = 10$

$∠ABC = 6(10) + 8$

$\boxed{∠ABC = 68}$
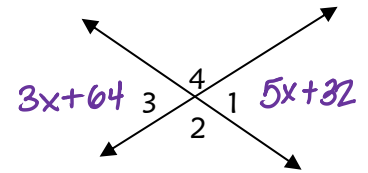
$∠DEF = 12(10) - 8$

$= 120 - 8$

$\boxed{∠DEF = 112}$

14) If m∠1 = 5x +32 and m∠3 = 3x + 64 find m∠4.

3x+64 3 4 1 5x+32
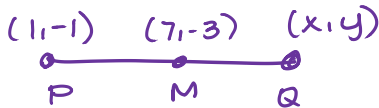   2

$5x + 32 = 3x + 64$

$2x = 32$

$x = 16$

$∠3 = 3(16) + 64$

$= 112$

(supp) $∠4 = 180 - 112 = \boxed{68°}$

1.6 Apply the midpoint and distance formulas.
   Rate Your Understanding: 1 (Yikes!)   2   3   4   5 (I got this!)

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

★ working backwards problem ★

(1, -1)   (7, -3)   (x, y)
  P   M   Q

$\frac{1+x}{2} = 7$ $\frac{-1+y}{2} = -3$

$1 + x = 14$ $-1 + y = -6$

$x = 13$ $y = -5$

$\boxed{(13, -5)}$

16) Find the distance of $\overline{PQ}$ with endpoints
   $\overset{x_1 \ y_1}{P(1, -1)}$ and $\overset{x_2 \ y_2}{Q(7, -3)}$.

$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

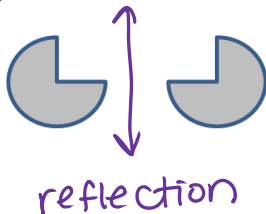$\sqrt{(7-1)^2 + (-3--1)^2}$

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

$\sqrt{36 + 4} = \sqrt{40} =$

1.7 Identify reflections, rotations, and translations. Graph transformations in the coordinate plane.
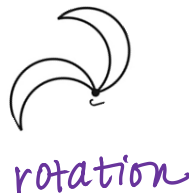   Rate Your Understanding: 1 (Yikes!)   2   3   4   5 (I got this!)

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

17)

reflection

18)

rotation

19)

translation

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!!!