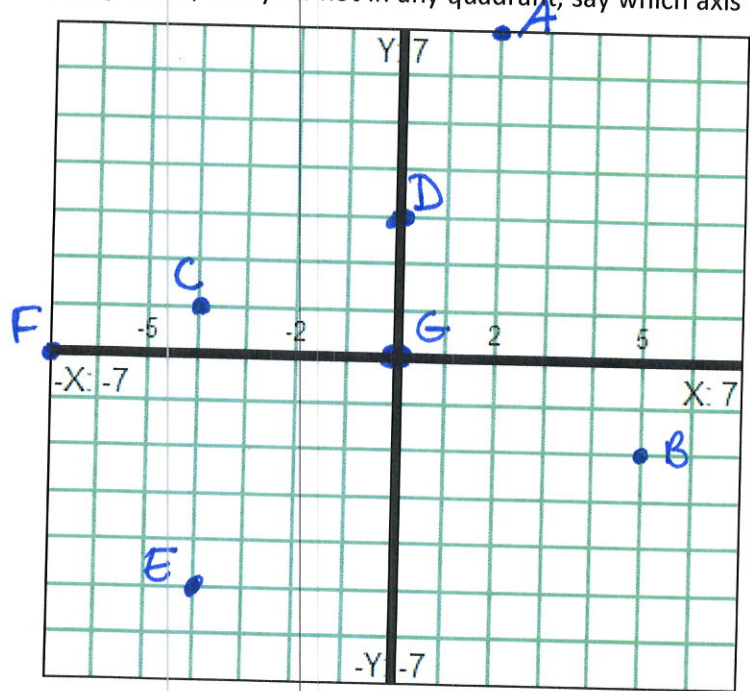1. Plot the points and say which quadrant they are in, if any. If not in any quadrant, say which axis they lie on.
   a. (2,7)
   b. (5,-2)
   c. (-4,1)
   d. (0,3)
   e. (-4,-5)
   f. (-7,0)
   g. (0,0)

2. Say which quadrant (or axis) these points are in (on) without plotting them.
   a. (11,-3)   Q IV
   b. (-4,4)   Q II
   c. (0,25)   y-axis
   d. (5,5)   Q I
   e. (-3,-11) Q III
   f. (-16,0)   x-axis

3. Consider the table below and answer the questions that follow.

Year	Pet-Related Expenditures (billions $$)
2008	43.2
2009	45.5
2010	48.4
2011	50.8

   a. Write a list of ordered pairs for the data in the table.
   (2008, 43.2), (2009, 45.5), (2010, 48.4), (2011, 50.8)

   b. Write the meaning of the pair (2011, 50.8).
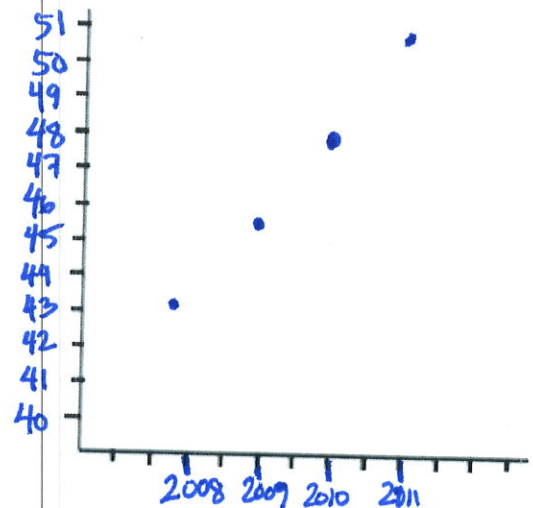   In the year 2011, 50.8 billion $ were spent on pets

   c. Create a scatterplot. Label the axes appropriately.
   See →

   d. What trend in the data is there? (Up, down, roughly flat?)
   upward

4. Which, if any, of the pairs below are solutions to the equation $2x + y = 7$?
   a. (3,1) *yes*
   b. (7,0) *no*
   c. (0,7) *yes*

5. Which, if any, of the pairs below are solutions to the equation $x = 5$?
   a. (4,5) *no*
   b. (5,4) *yes*
   c. (5,0) *yes*

6. Fill in the missing coordinate that satisfies the equation $x - 4y = 4$.
   a. (*−4* ,−2)   b. (4, *0*)

7. Fill in the missing coordinate that satisfies the equation $y = \frac{1}{5}x - 2$.
   a. (10, *0*)   b. (*15* ,1)

8. The cost in dollars of producing x desks is $y = 80x + 5000$. Complete the table below.

x	100	200	300
y	13,000	21,000	29,000

9. Solve for y in each equation.
   a. $x + y = 5$ $y = 5 - x$

   b. $5x + 2y = 7$ $y = \frac{7}{2} - \frac{5}{2}x$

   c. $4y = -8x$ $y = -2x$

10. Fill in each blank in column one with "+", "-", or "0". Fill in the blanks in column two with "x" or "y".

Point	Location
(− , −)	Quadrant III
(+ , +)	Quadrant I
(+ , −)	Quadrant IV
(− , +)	Quadrant II
(0 , 0)	Origin
(#,0)	*X* -axis
(0, #)	*Y* -axis

11. Three vertices of a rectangle are $(-2, -3), (-7, -3), (-7, 6)$.
    a. Find the missing vertex.

    $(-2, 6)$

    b. Find the length of each side.
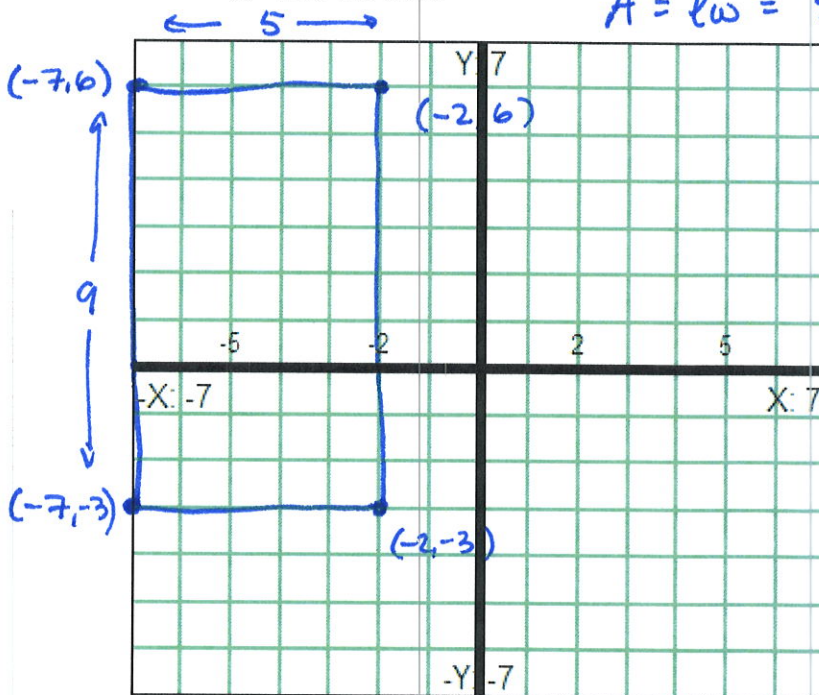
    5 by 9

    c. Find the perimeter.

    $P = 2(5) + 2(9) = 10 + 18 = 28$

    d. Find the area. $A = lw = 5 \cdot 9 = 45$

$\longleftarrow \; 5 \; \longrightarrow$

$(-7, 6)$

Y 7

$(-2, 6)$

9

-5   -2   2   5

X: -7   X: 7

$(-7, -3)$

$(-2, -3)$

-Y -7

Graphing Points Key (work)

4. a. $2(3) + 1 \overset{?}{=} 7$ yes
$6 + 1 = 7$

b. $2(7) + 0 = ? \ 7$ no
$14 + 0 \neq 7$

c. $2(0) + 7 = ? \ 7$
$7 = 7$ yes

5. $x = 5$ a. $x = 4$ no
$y = 5$

b. $x = 5, \ y = 4$
yes

c. $x = 5, \ y = 0$
yes

6. $x - 4y = 4$

a. $x - 4(-2) = 4$
$x + 8 = 4$
$\underline{\quad -8 \quad -8}$
$x = -4$

b. $\quad 4 - 4y = 4$
$\underline{-4 \qquad -4}$
$-4y = 0$
$y = 0$

7. $y = \frac{1}{5}x - 2$

a. $y = \frac{1}{5}(10) - 2$
$= \frac{10}{5} - 2 = 2 - 2 = 0$

b. $1 = \frac{1}{5}x - 2$
$\underline{+2 \qquad +2}$
$\left(3 = \frac{1}{5}x\right) 5$
$x = 15$

8. $y = 80x + 5000$

$x = 100 \Rightarrow y = 80(100) + 5000 = 8000 + 5000 = 13,000$

$x = 200 \Rightarrow y = 80(200) + 5000 = 16000 + 5000 = 21,000$

$x = 300 \Rightarrow y = 80(300) + 5000 = 24,000 + 5000 = 29,000$

a. $x + y = 5$
$\underline{-x \qquad -x}$
$y = 5 - x$

b. $5x + 2y = 7$
$\underline{-5x \qquad -5x}$
$\frac{2y}{2} = \frac{7 - 5x}{2}$
$y = \frac{7}{2} - \frac{5}{2}x$

c. $\frac{4y}{4} = \frac{-8x}{4}$
$y = -2x$