

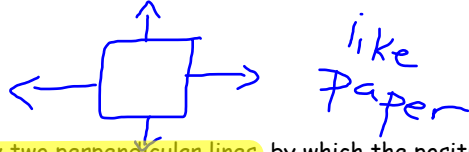
# Lesson 1 Cartesian Plane

*Chap. 9*

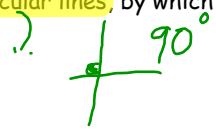
<http://www.youtube.com/watch?v=eHpUhh80hBM&feature=related>

Introduction\_Washington\_D\_C\_and\_the\_Coordinate\_Plane(3).asf

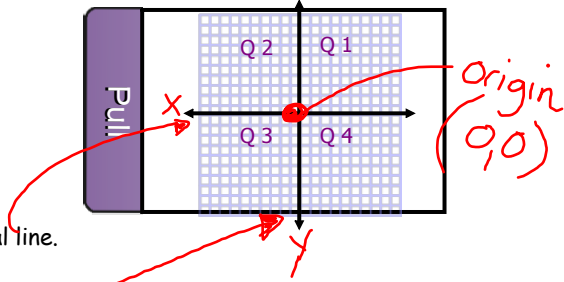
**Plane** ~ a flat surface that extends infinitely in all directions.



**Cartesian Plane** ~ a grid formed by two perpendicular lines, by which the position of any point on the plane can be described.



**Quadrants** ~ the region determined by two perpendicular axes.



**x-axis** (abscissa) ~ horizontal line.

**y-axis** (ordinate) ~ vertical line.

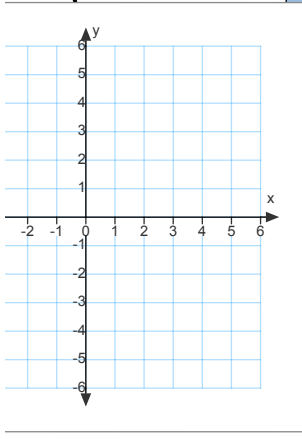
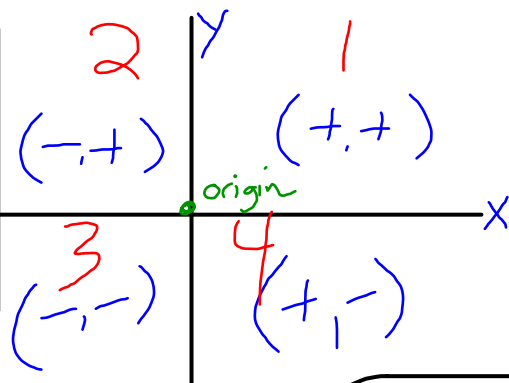
**origin** ~ the point of intersection of two axes on a Cartesian Plane.

**Coordinates of a Point** ~ The position of a point on the number plane is determined by an ordered pair of numbers.

The order is always  $(x, y)$

$P(x, y)$  reads "point P with coordinates x and y."

- x & y
- Directions
- Quadrants
- Origin

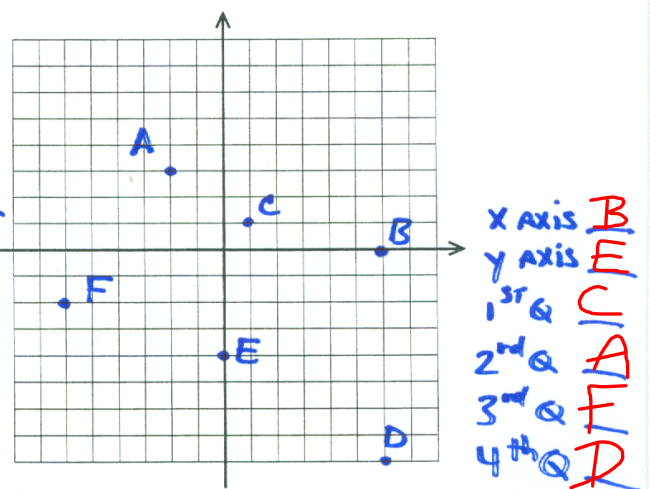
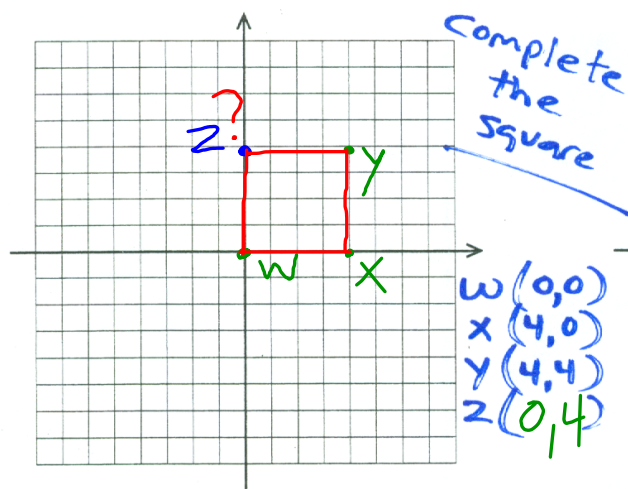
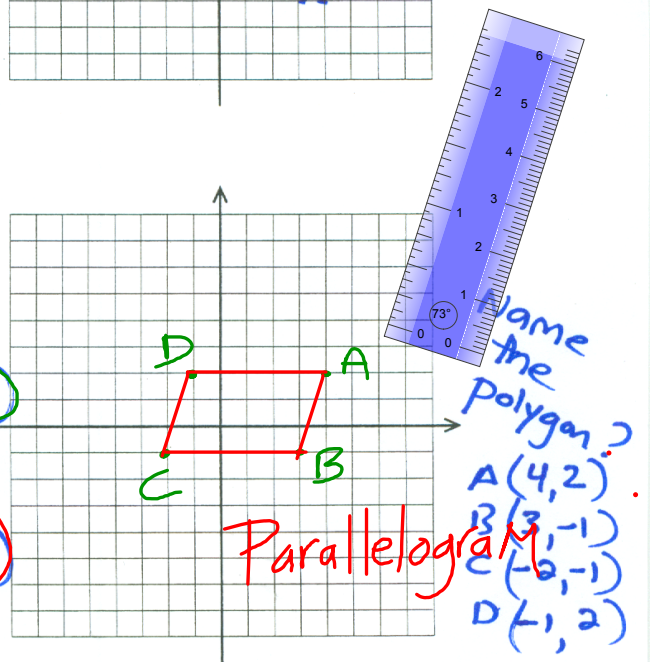
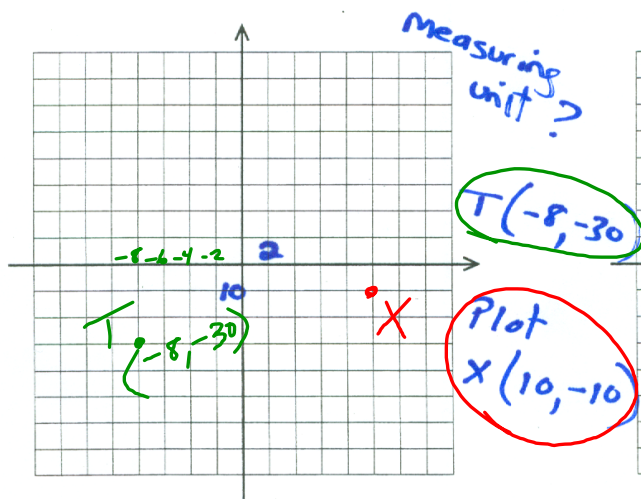
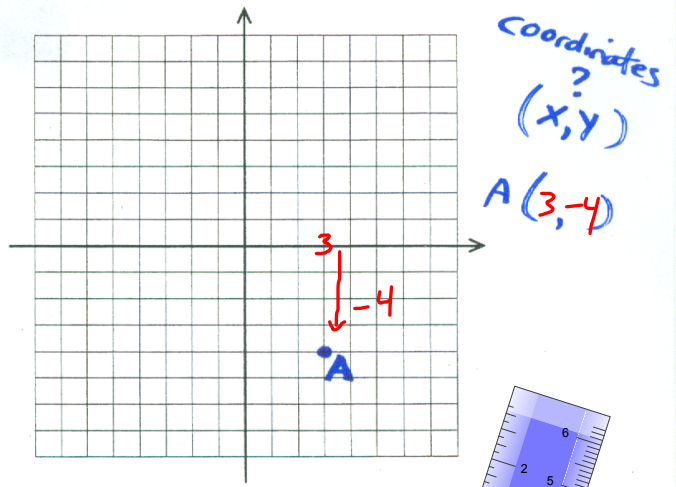
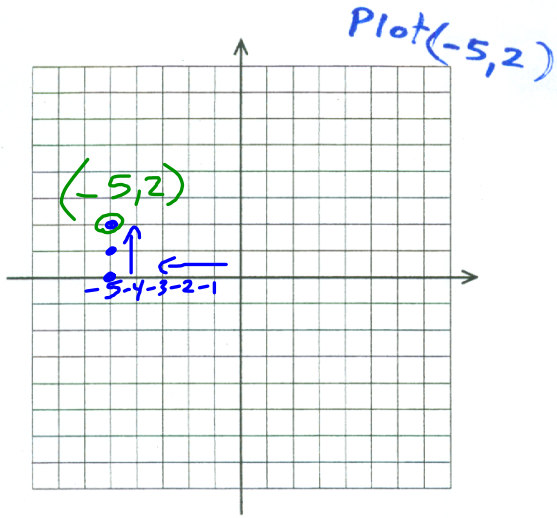


**Real Life**

- Search & Rescue
- GPS

• Is It Life Threatening??

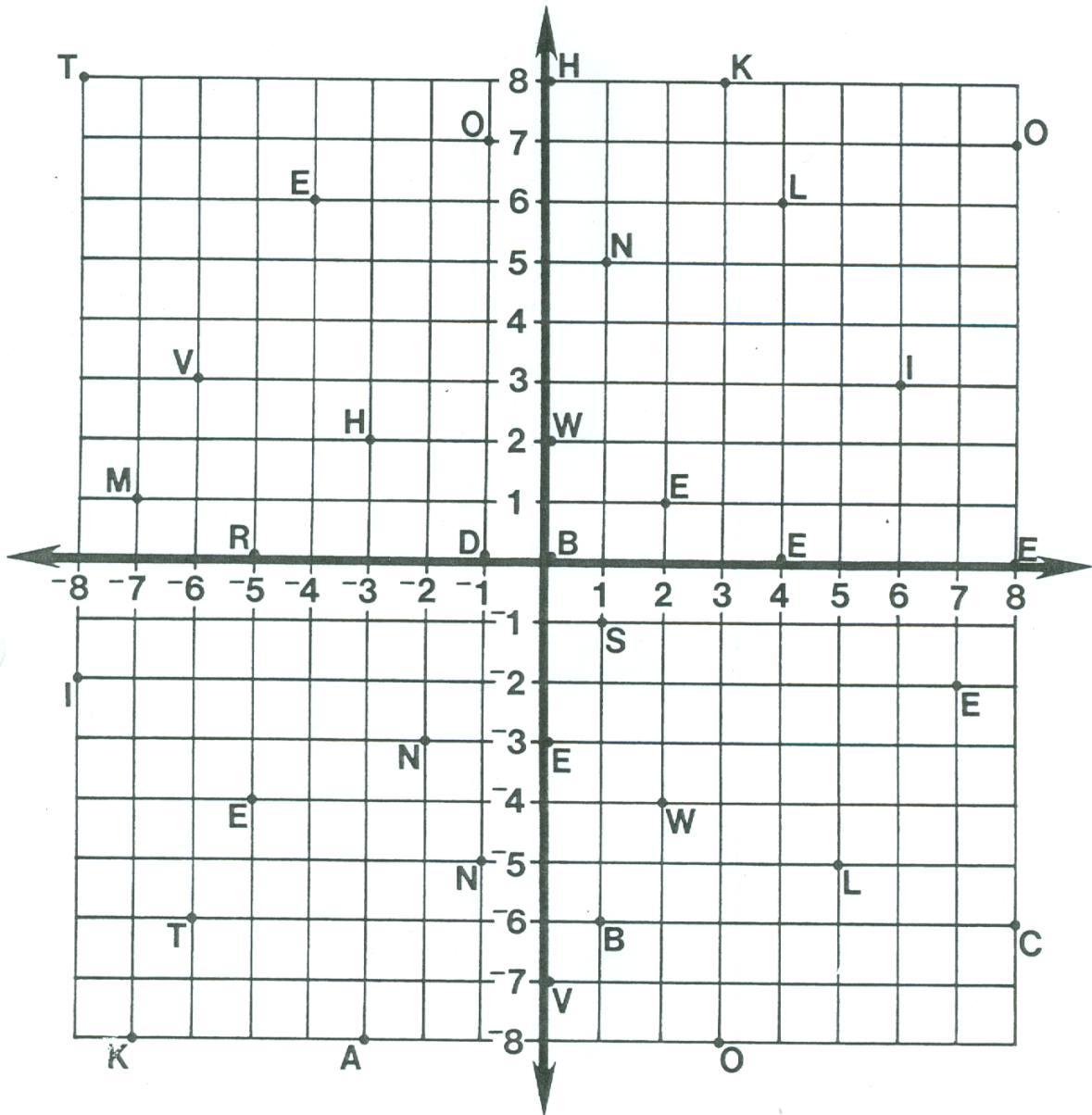
# Lesson 1 .....





# What Did One Ear Say To The Other?

Each pair of numbers at the bottom of the page stands for a point on the coordinates below. Above each pair of numbers, write the letter that appears at that point.



- (6,3) (1,5) (-4,6) (-6,3) (4,0) (-5,0) (-7,-8) (-1,-5) (7,-2) (2,-4) (0,2) (0,-3)  
 (0,0) (8,7) (-6,-6) (-3,2) (5,-5) (-8,-2) (0,-7) (-5,-4) (-1,0) (3,-8) (-2,-3)  
 (-8,8) (0,8) (8,0) (1,-1) (-3,-8) (-7,1) (2,1) (1,-6) (4,6) (-1,7) (8,-6) (3,8)



3. Match each ordered pair to all the descriptions that are appropriate.



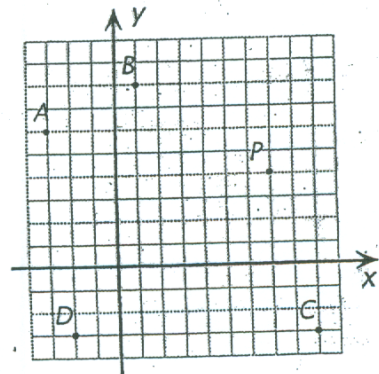
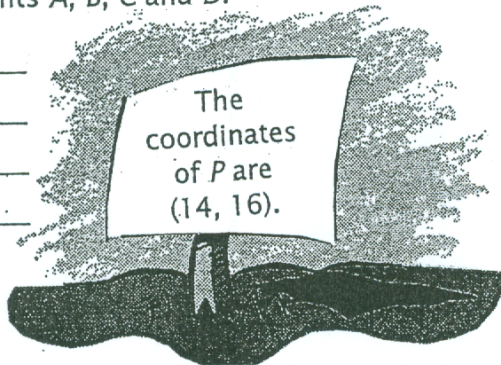
- a) Ordered pair located in the first quadrant. \_\_\_\_\_
- b) Ordered pair with the x-value opposite to the y-value. \_\_\_\_\_
- c) Ordered pair where the y-value is a prime number. \_\_\_\_\_
- d) Ordered pair where the y-value is tripe the x-value. \_\_\_\_\_
- e) Ordered pairs with the same y-value. \_\_\_\_\_

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6. Use the coordinates of Point P to determine the coordinates of Points A, B, C and D.

- A: \_\_\_\_\_
- B: \_\_\_\_\_
- C: \_\_\_\_\_
- D: \_\_\_\_\_



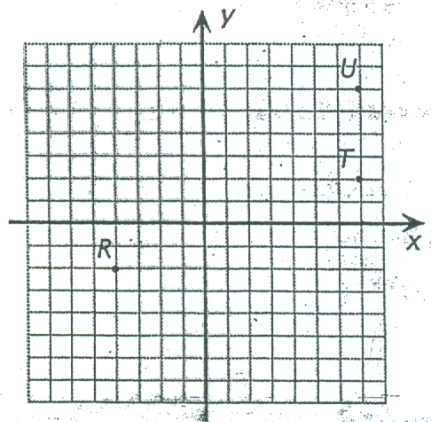
9. a) Given points  $R(-4, -2)$ ,  $T(7, 2)$  and  $U(7, 6)$ , draw line segments  $RT$  and  $RU$ .

b) Which is longer:  $\overline{RT}$  or  $\overline{RU}$ ? \_\_\_\_\_

c) Draw  $\triangle RSU$ , given that  $(7, -2)$ . ← point S

d) What can be said about triangles  $RST$  and  $RSU$ ?  
 \_\_\_\_\_

e) Find the area of these two triangles.  
 \_\_\_\_\_  
 \_\_\_\_\_



## Attachments

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