


Coordinates

Section 13.1

Key Words

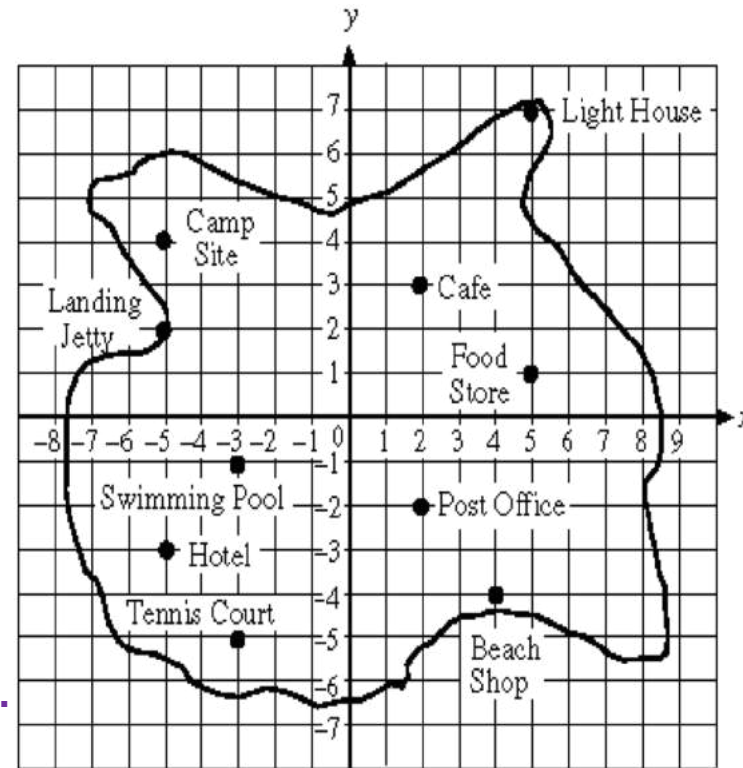
- ▶ Grid
 - ▶ Plane
 - ▶ Coordinates
 - ▶ Axes
- 

Example of a grid

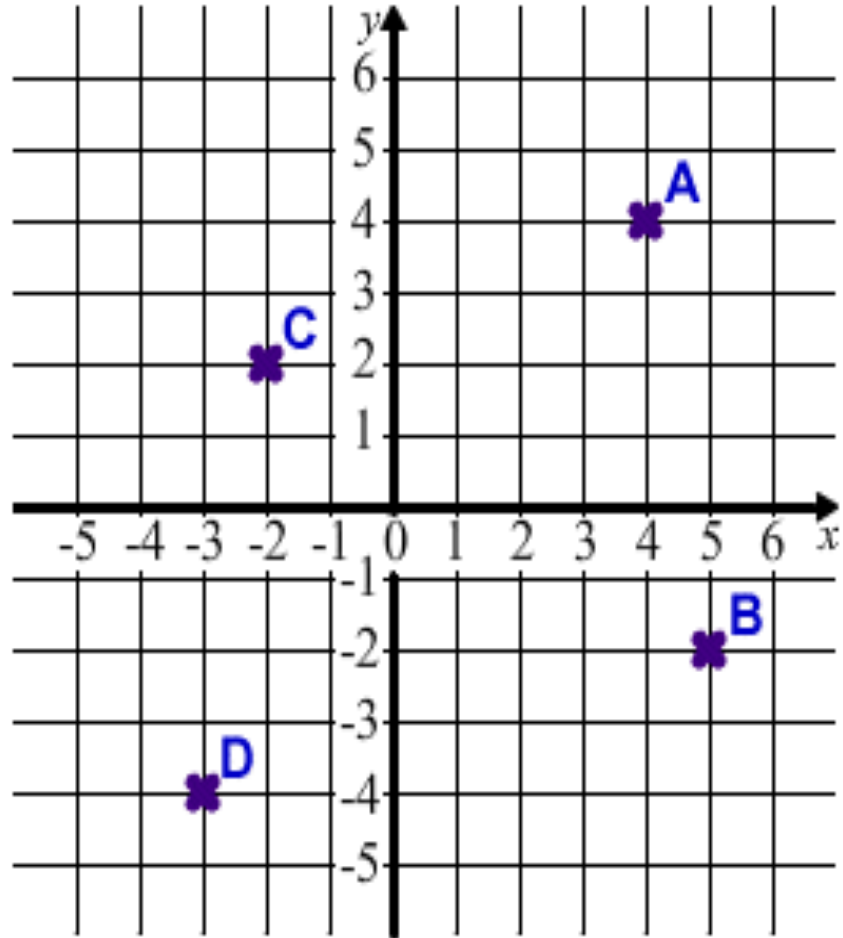
This is an example of a grid.

If we start from the center marked O
the food store is 5 **across** and 1 **up**.

If we start from the center marked O
the post office is 2 **across** and 1 **down**.



Example of Coordinates



Below are
examples of
coordinates

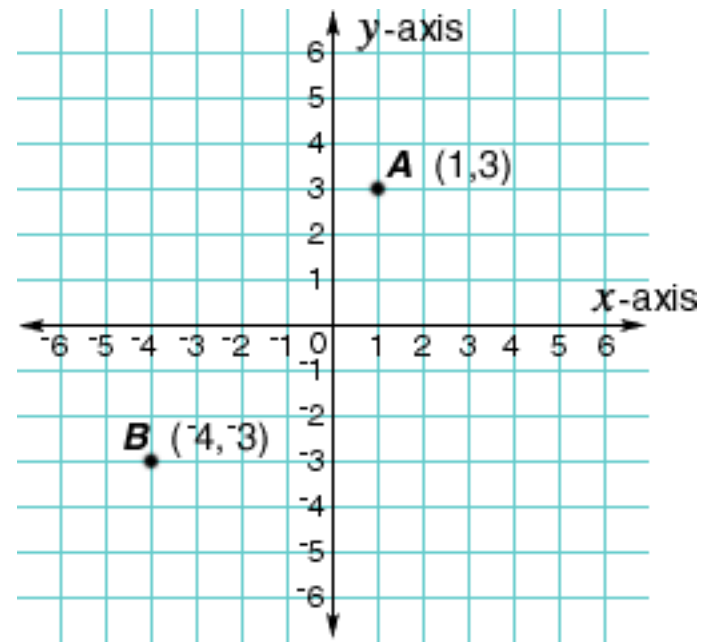
$$A = (4, 4)$$

$$B = (5, -2)$$

$$C = (-2, 2)$$

$$D = (-3, -4)$$


Example



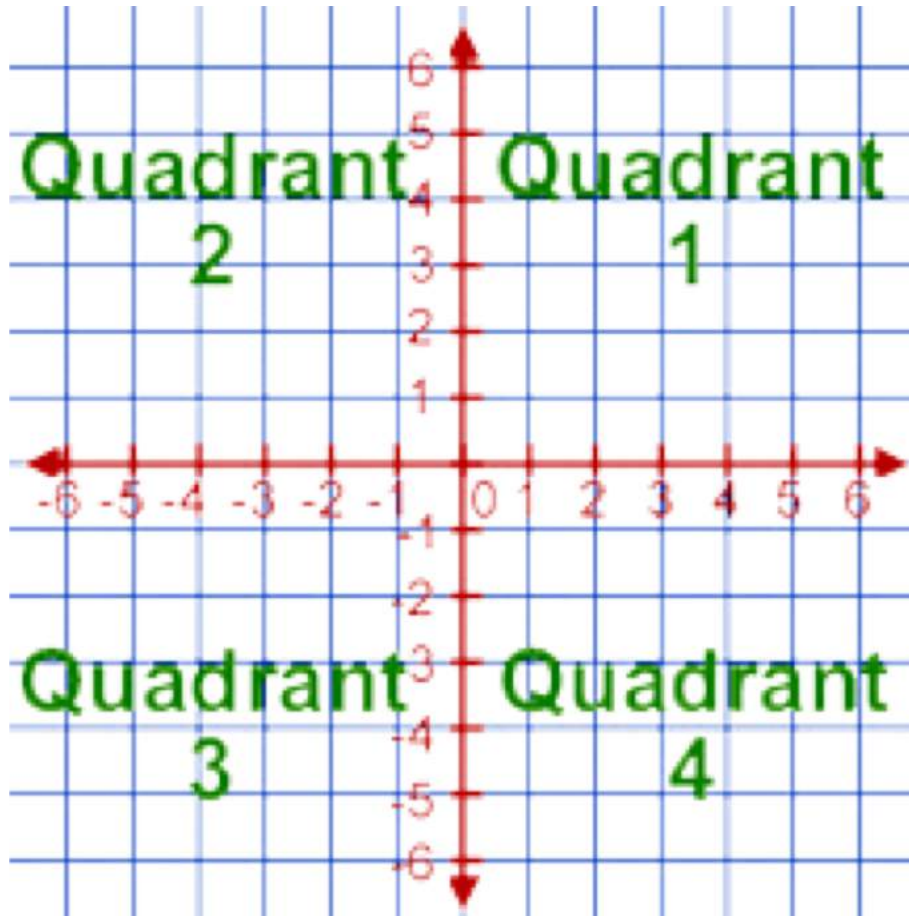
The four quadrants

Section 13.2

Key Words

- ▶ origin
 - ▶ x-axis
 - ▶ y-axis
 - ▶ Four quadrants
 - ▶ Cartesian plane
- 

The four quadrants

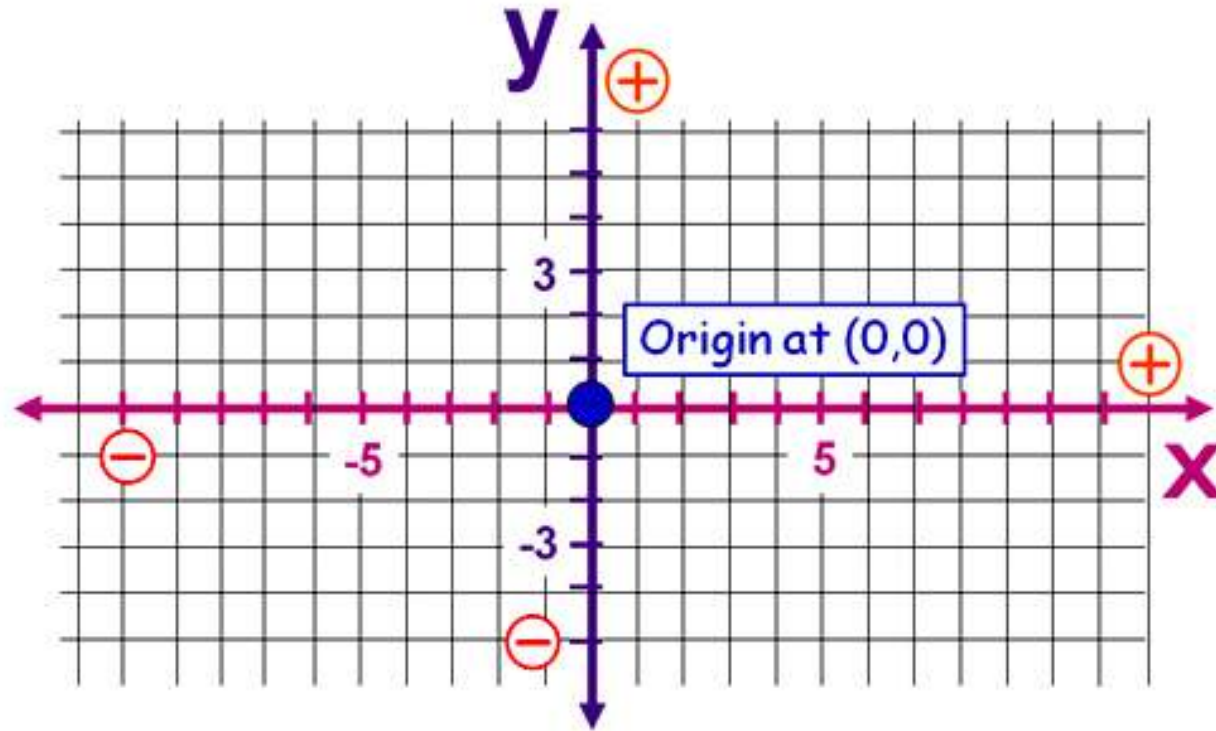


The diagram on the left shows that the x-axis and y-axis divide the plane into four quarters.

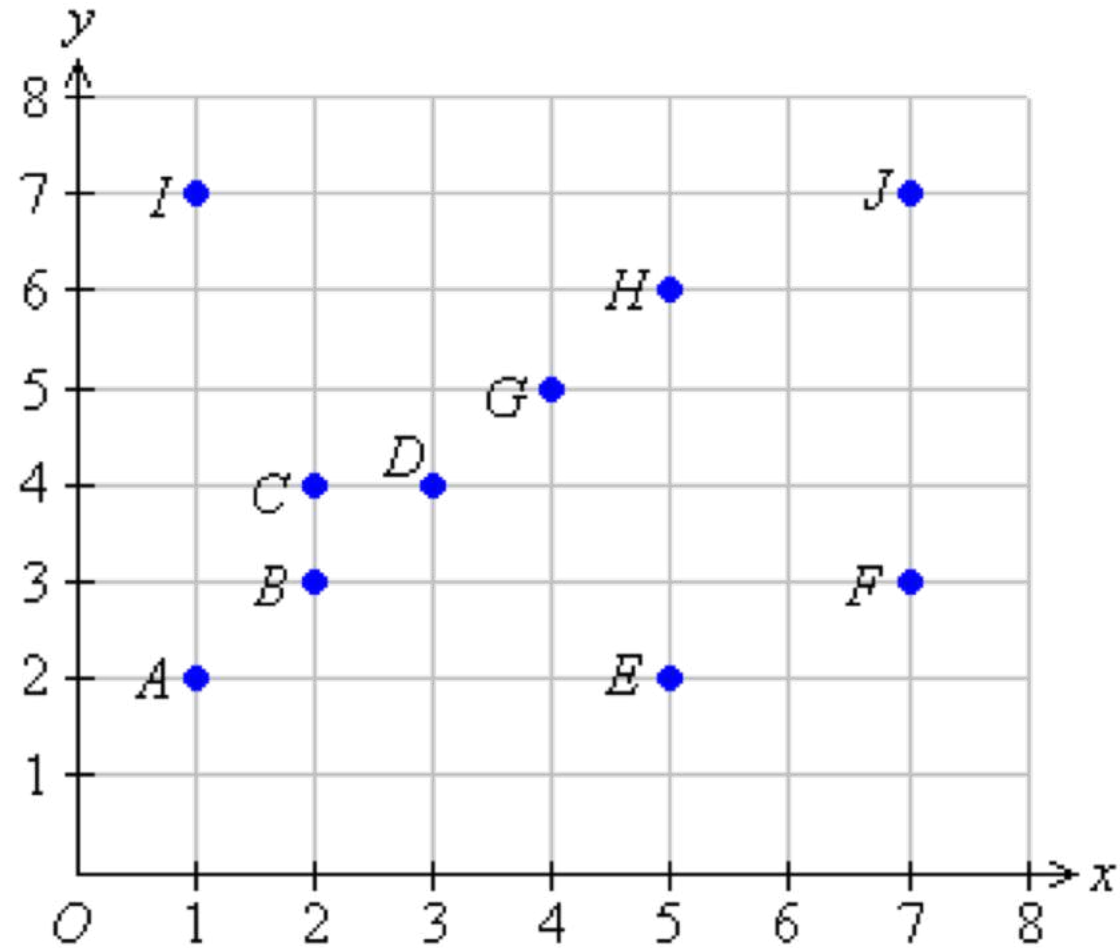
Each of these is called a **quadrant**.

Cartesian Plane

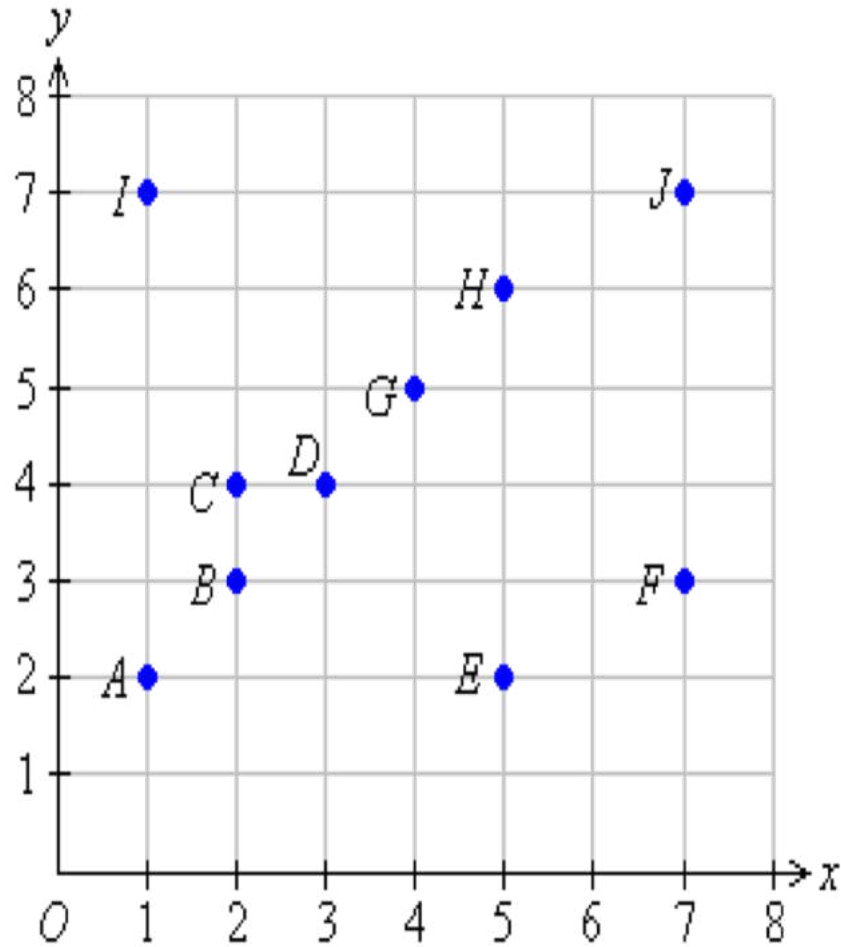
"Cartesian Plane" or "X-Y Grid"



Write down the points A–J



Answers



A= (1,2)
B= (2,3)
C= (2,4)
D= (3,4)
E= (5,2)
F= (7,3)
G=(4,5)
H= (5,6)
I= (1,7)
J= (7,7)

Midpoint of a line segment

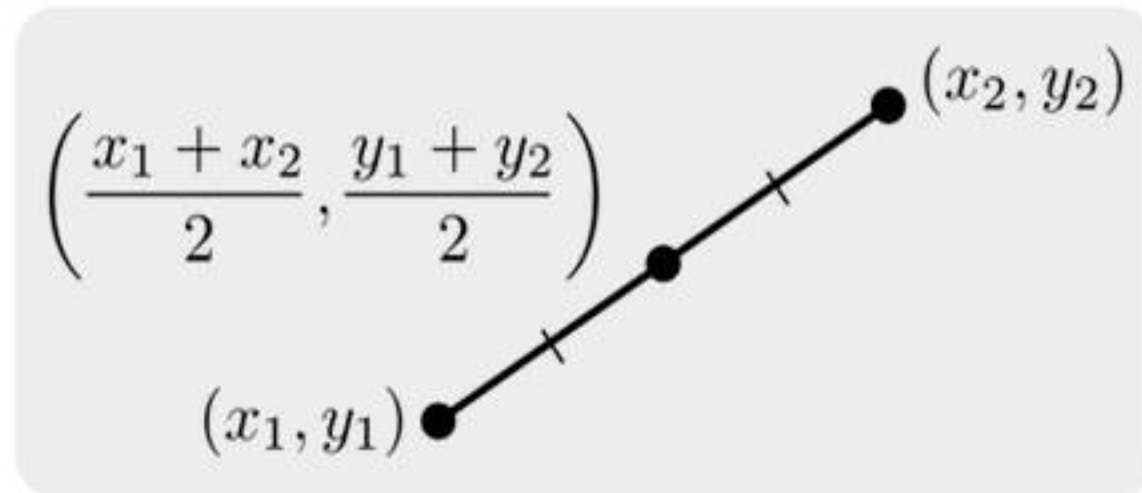
Section 13.3

Key Words

- ▶ Midpoint
- ▶ Formula

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

Midpoint means halfway point



(x_1, y_1)

Midpoint: formula

- ▶ To find the midpoint of a line segment, add the two x-values and divide by 2 and add the two y-values and divide by 2.

$$\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$