4.1

Graphing Linear Equations

Solve the equation for y.

$$y = 2x + 5$$

1) If $x = 3$

2) If $x = -2$

Review

Solve the equation for y.
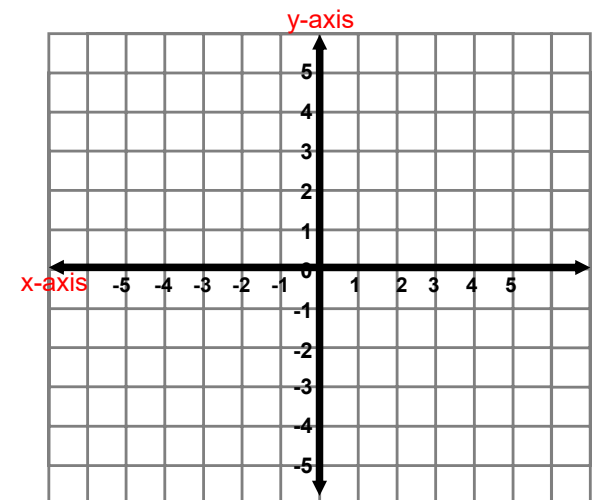
$$y = \frac{1}{2}x + 1$$

3) If $x = 4$

4) If $x = -6$

Using a T-Chart

2) Graph $y = x - 3$ using a T-chart.

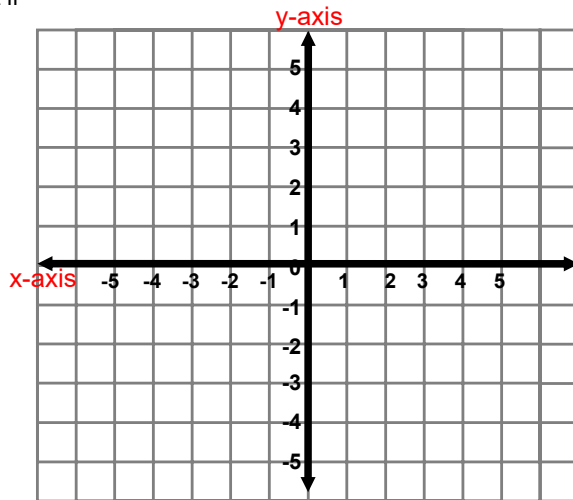Fill in the following table of values if x = -1, 0, 1, 2

3) Graph the linear equation using a T-chart.

$$y = 3x + 1$$

Fill in the following T-Chart if
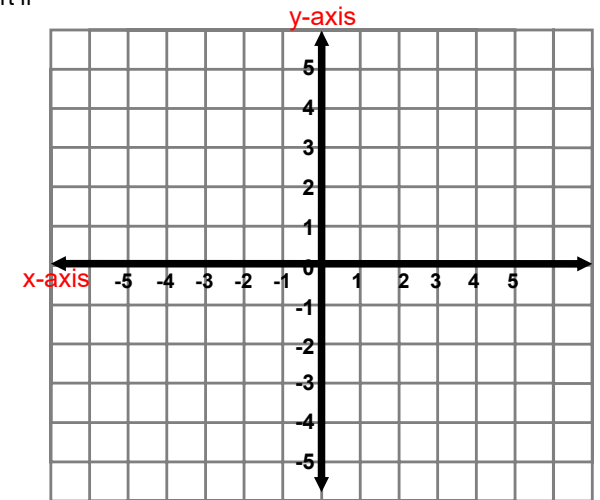x is -1, 0, 1, 2.

Graph the points.

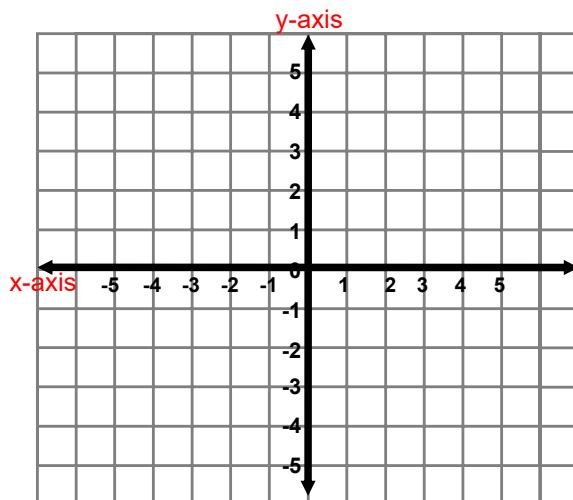**4) Graph the linear equation using a T-chart.**

$$y = -x + 4$$

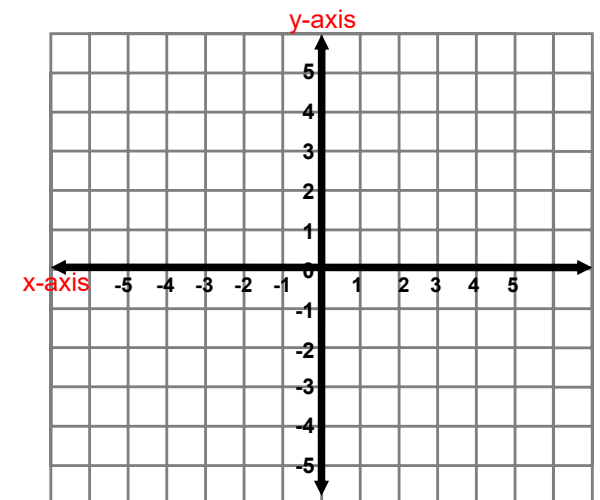Fill in the following T-Chart if
x is -1, 0, 1, 2.

Graph the points.

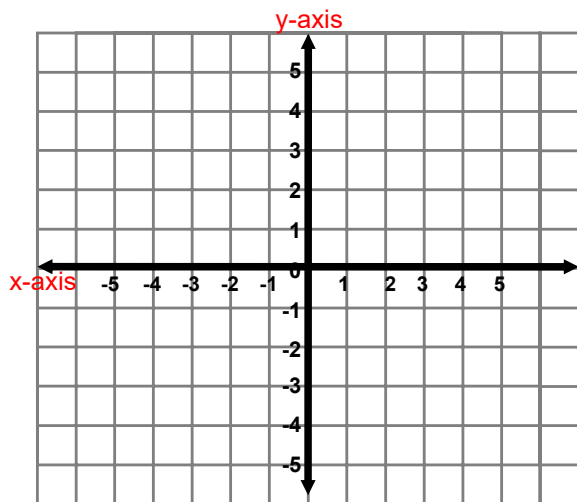**5) Graph the linear equation using a T-chart.**

$$y = 2x - 1$$

Using a T-Chart
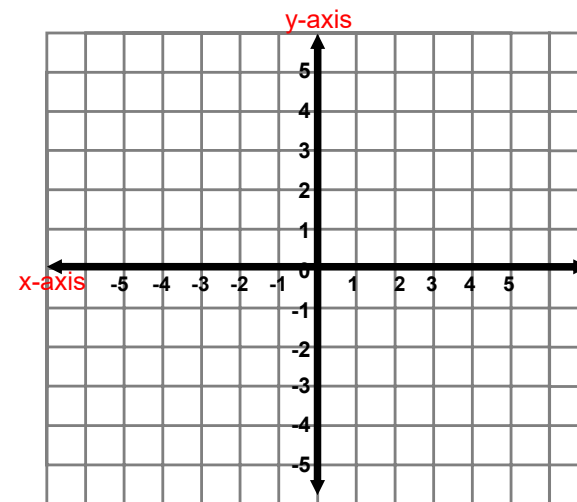
7) Graph $y = \dfrac{1}{2}x - 3$ **using a T-chart.**

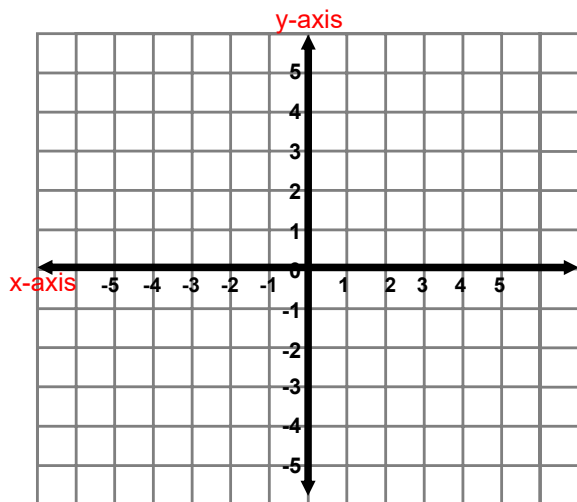**8) Graph the linear equation using a T-chart.**

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

y-axis

x-axis -5 -4 -3 -2 -1 1 2 3 4 5

5
4
3
2
1
-1
-2
-3
-4
-5

9) Graph the linear equation using a T-chart.

$$y = -\frac{1}{4}x - 2$$

y-axis

x-axis -5 -4 -3 -2 -1 1 2 3 4 5

5
4
3
2
1
-1
-2
-3
-4
-5

10) Graph the linear equation using T-chart.

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

y-axis

x-axis -5 -4 -3 -2 -1 1 2 3 4 5

5
4
3
2
1
-1
-2
-3
-4
-5

Graphing Horizontal and Vertical Lines

11) $y = 4$

y-axis

x-axis -5 -4 -3 -2 -1 1 2 3 4 5

5
4
3
2
1
-1
-2
-3
-4
-5
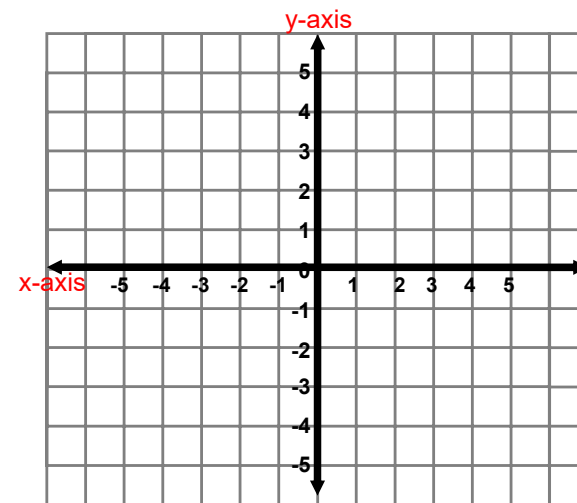
Graphing Horizontal and Vertical Lines

12) $x = 3$

y-axis

x-axis
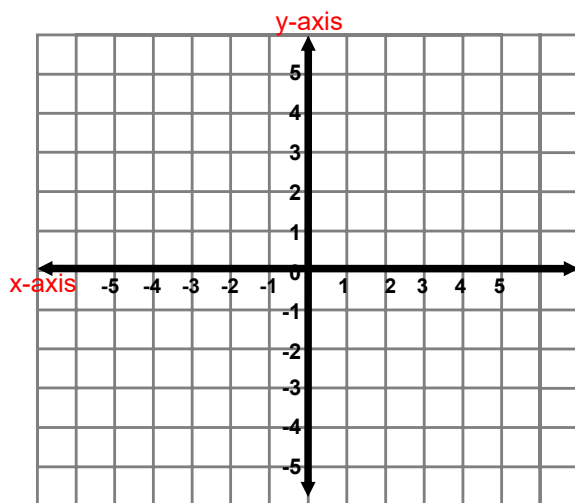
Graphing Horizontal and Vertical Lines

13) $y = -3$

y-axis

x-axis
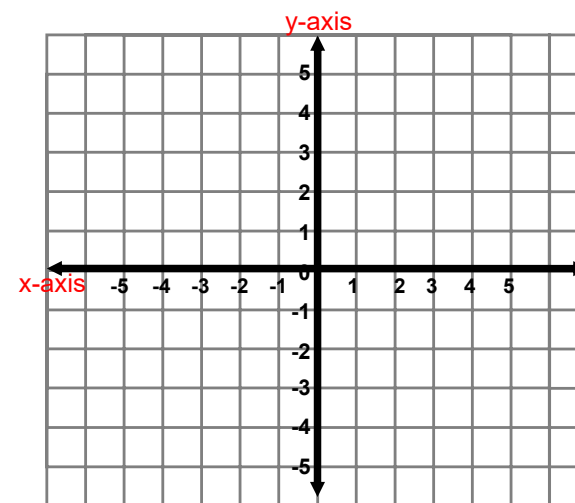
Graphing Horizontal and Vertical Lines

14) $x = -5$

y-axis
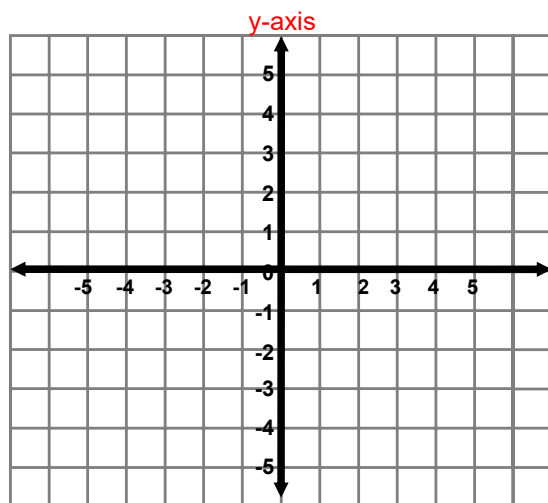
Solving Two-Step Equations

- Solve by using the INVERSE operation to undo operations
- Undo two-step equations by doing PEMDAS backwards!!

$a)\ 2x - 35 = 15$

$b)\ 837 = \dfrac{p}{2} + 37$

$c)\ -3x+1=7$ $\qquad d)\ \dfrac{1}{2}x-9=-25$

1) $\quad 4x+y=8$

2) $\quad \dfrac{2}{3}x+y=3$
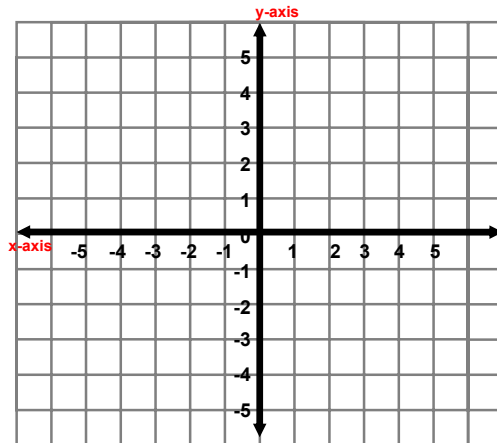
3) $\quad 8x+4y=16$

4) $-9x + 3y = 21$

15) Solve for y and then graph the equation.

$$2x + y = -1$$
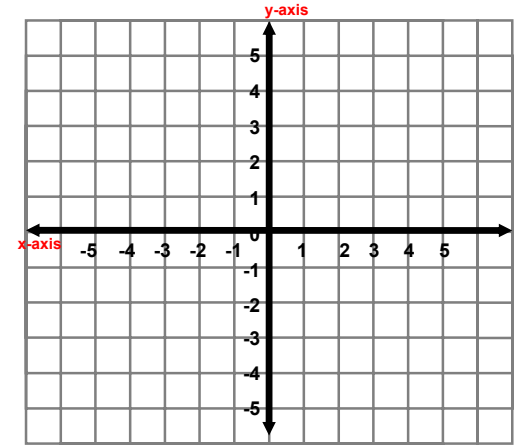
16) Solve for y and then graph the equation.

$$9x + 3y = 6$$

Application

The wind speed y (in miles per hour) of a tropical storm is $y = 2x + 66$, where x is the number of hours after the storm enters the Gulf of Mexico.

a. Graph the equation.

b. When does the storm become a hurricane?
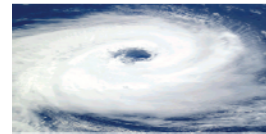
A tropical storm becomes a hurricane when wind speeds are at least 74 miles per hour.