4.1

Graphing Linear Equations

Review

Solve the equation for y.

$$y = 2x + 5$$

1) If $x = 3$

2) If $x = -2$

Review

Solve the equation for y.

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

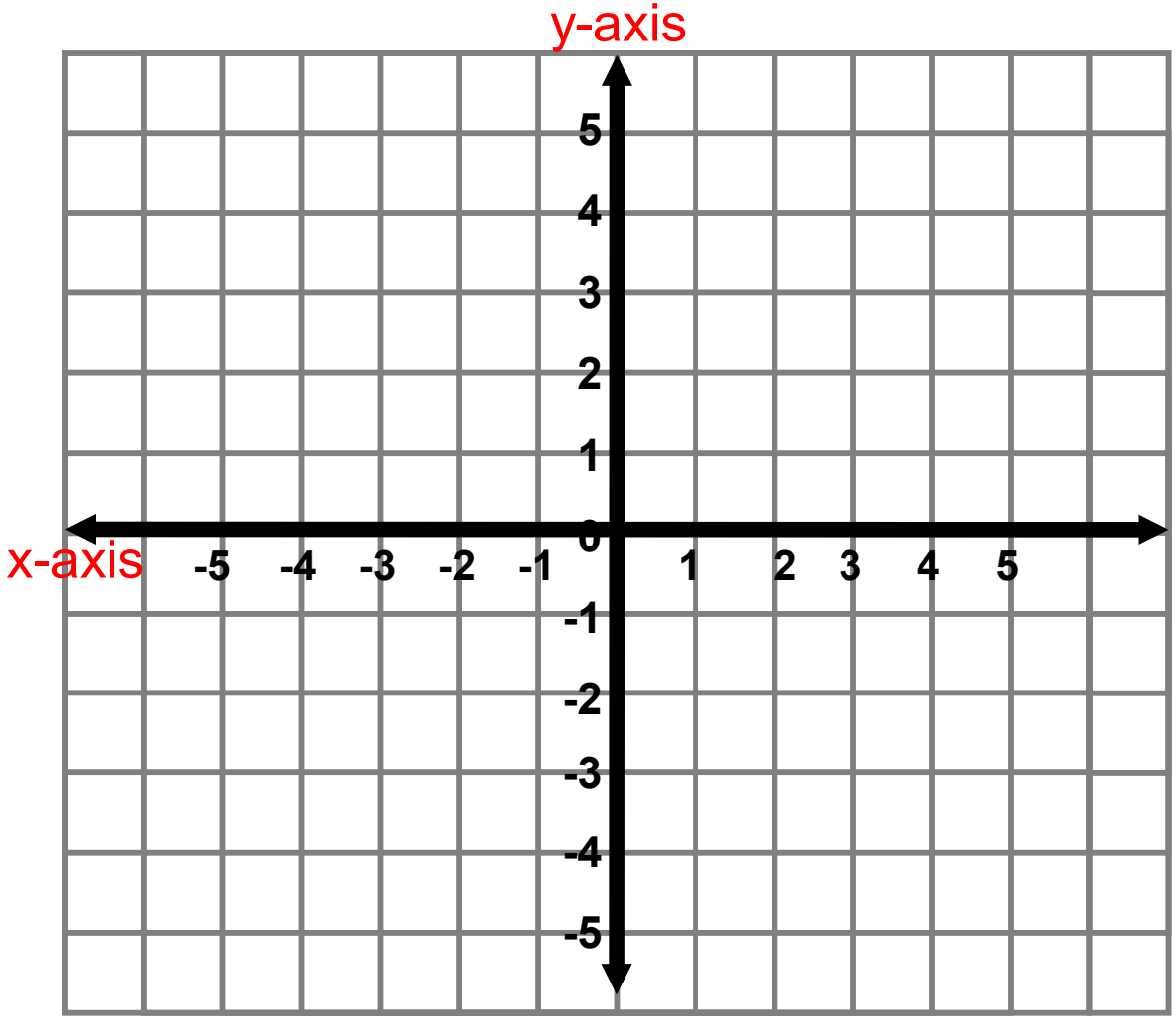
3) If $x = 4$

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

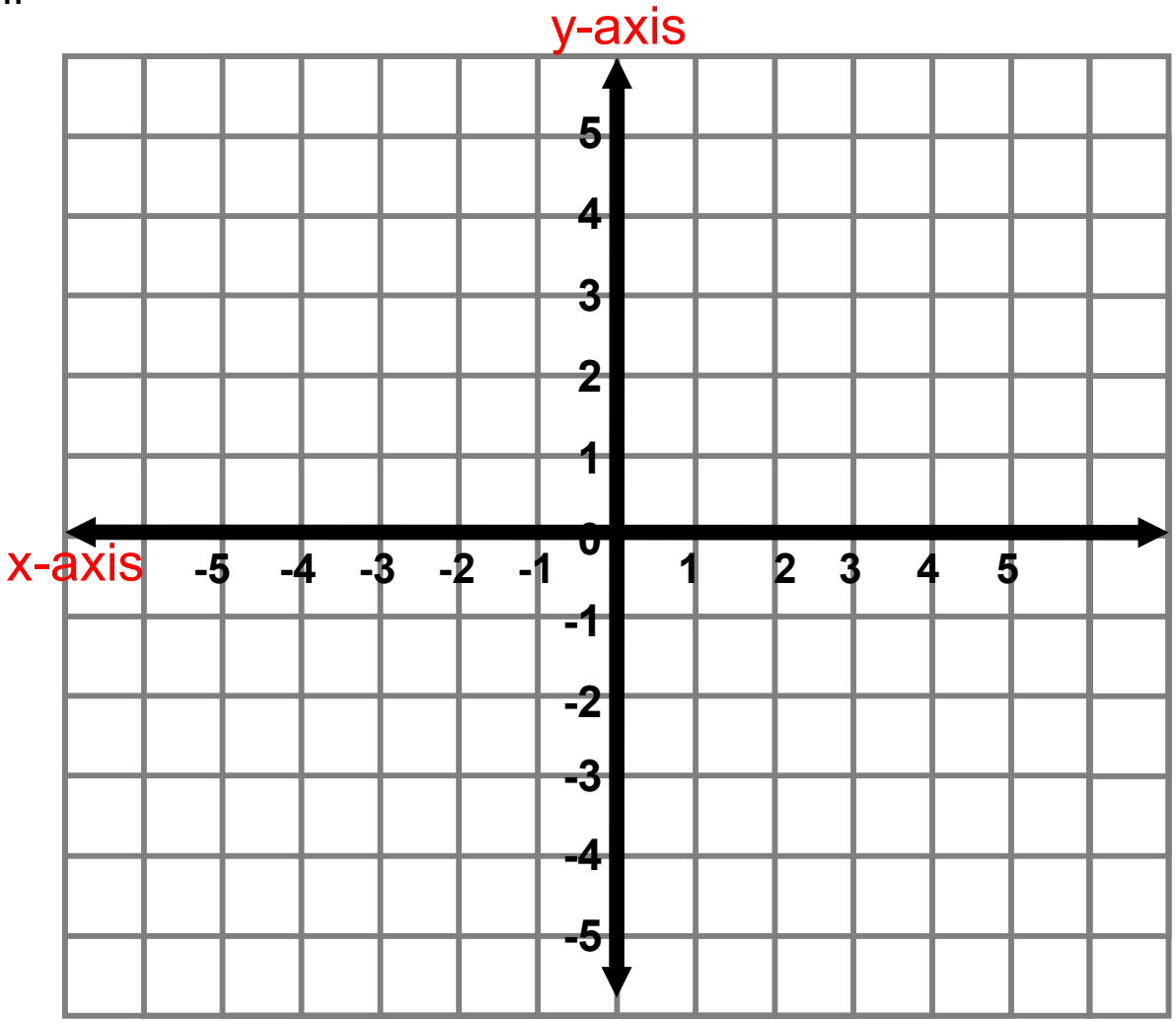


3) Graph the linear equation using a T-chart.

$$y = 3x + 1$$

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

Graph the points.

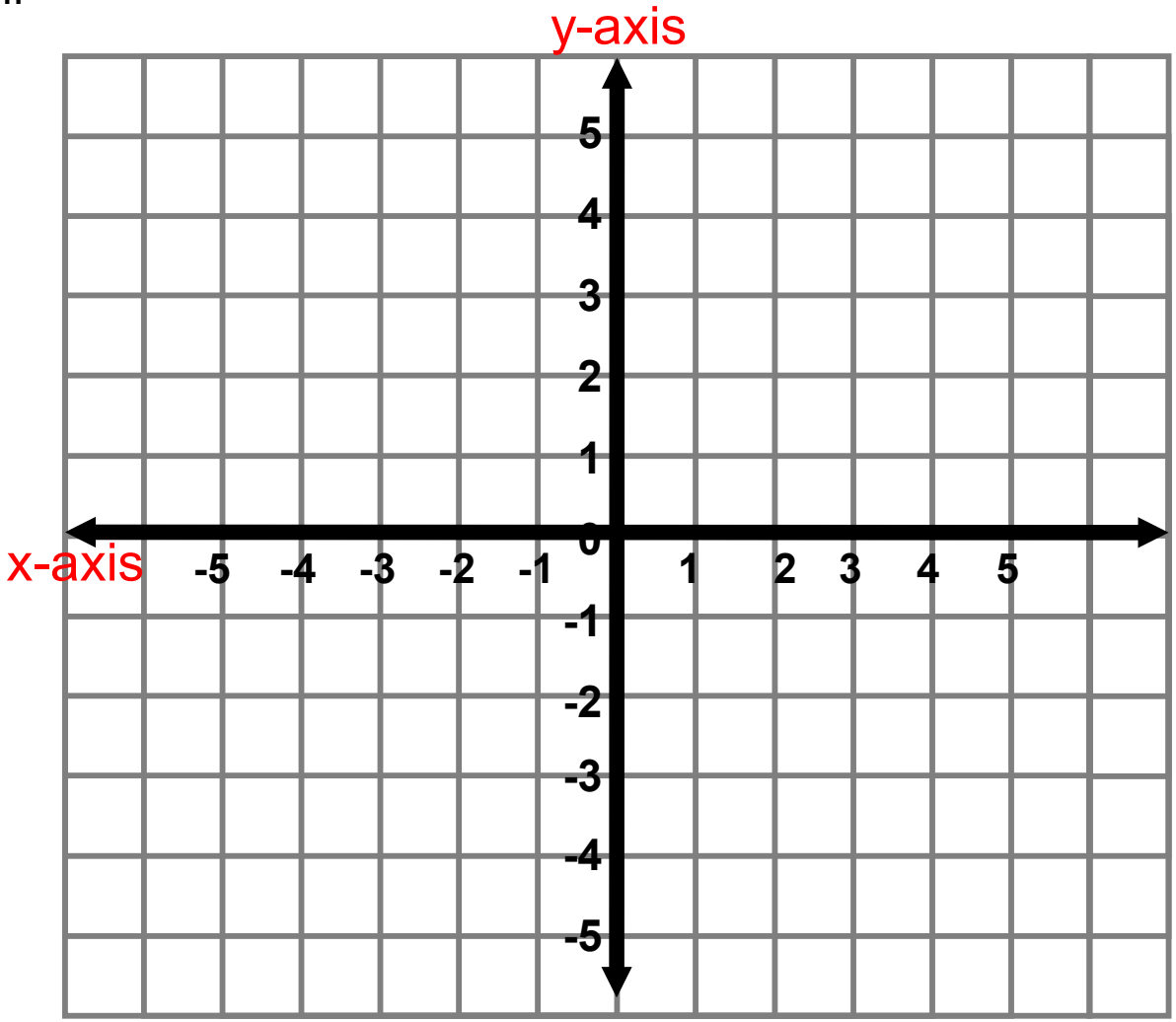


4) Graph the linear equation using a T-chart.

$$y = -x + 4$$

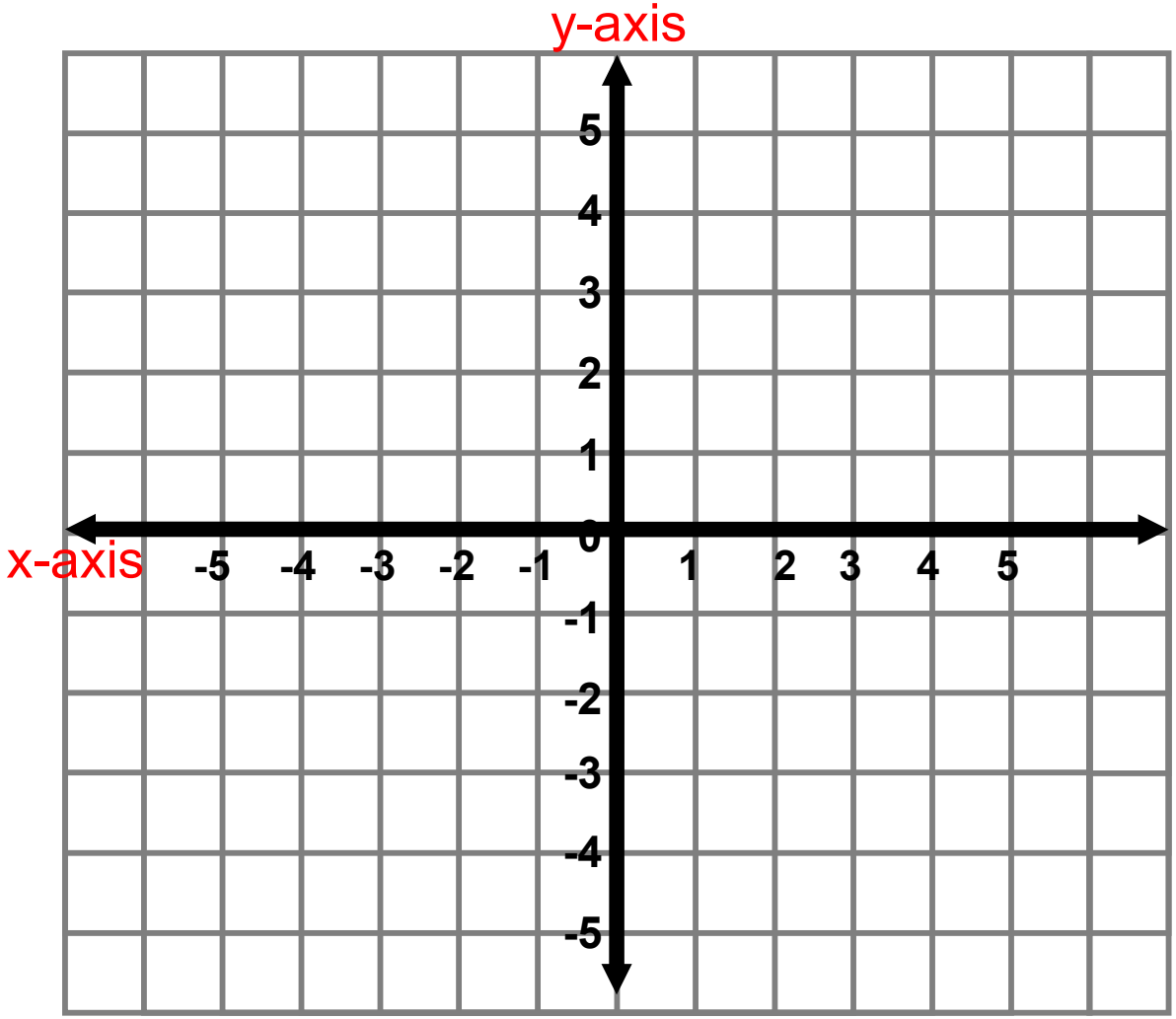
Fill in the following T-Chart if x is -1, 0, 1, 2.

Graph the points.



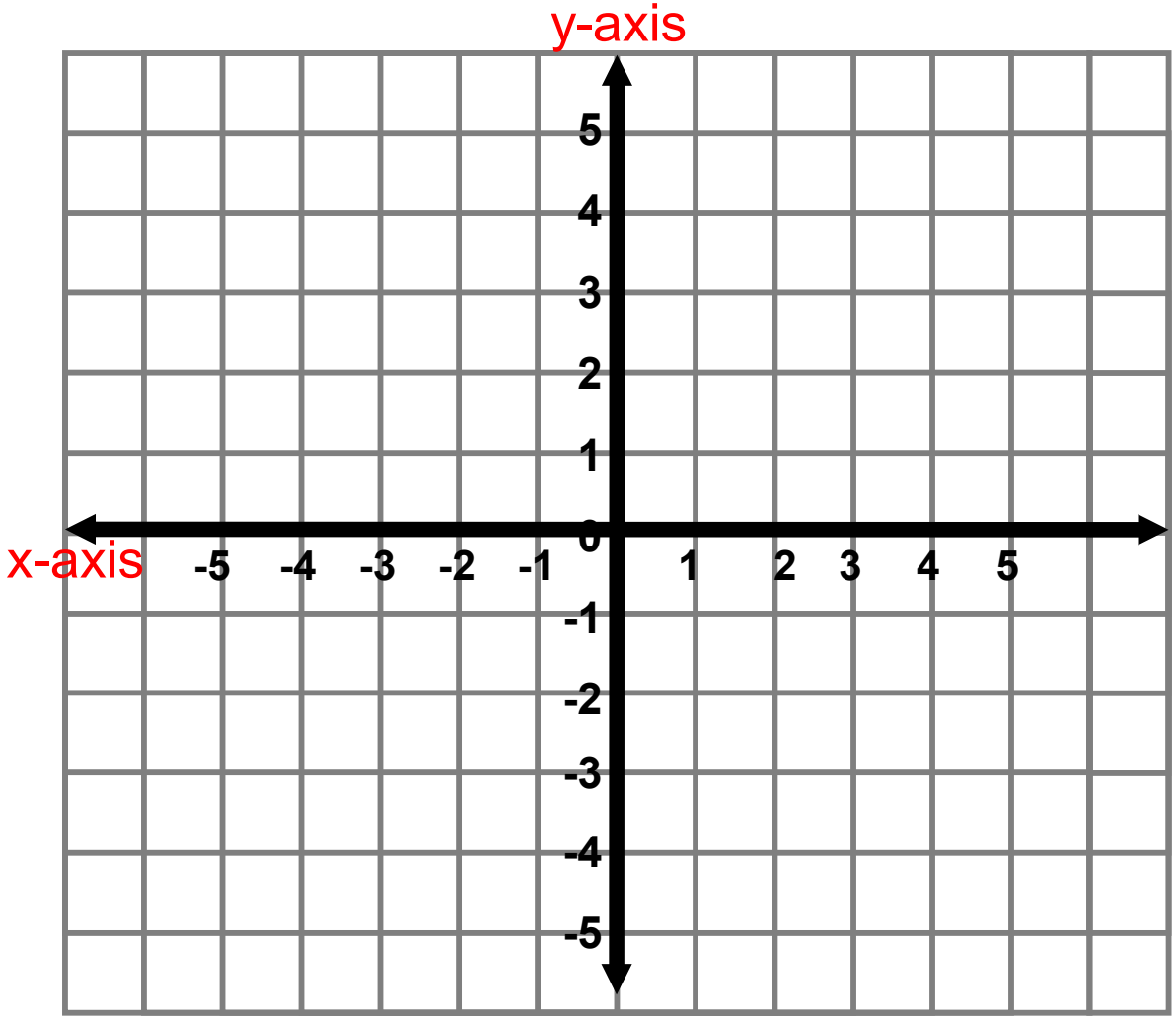
5) **Graph the linear equation using a T-chart.**

$$y = 2x - 1$$



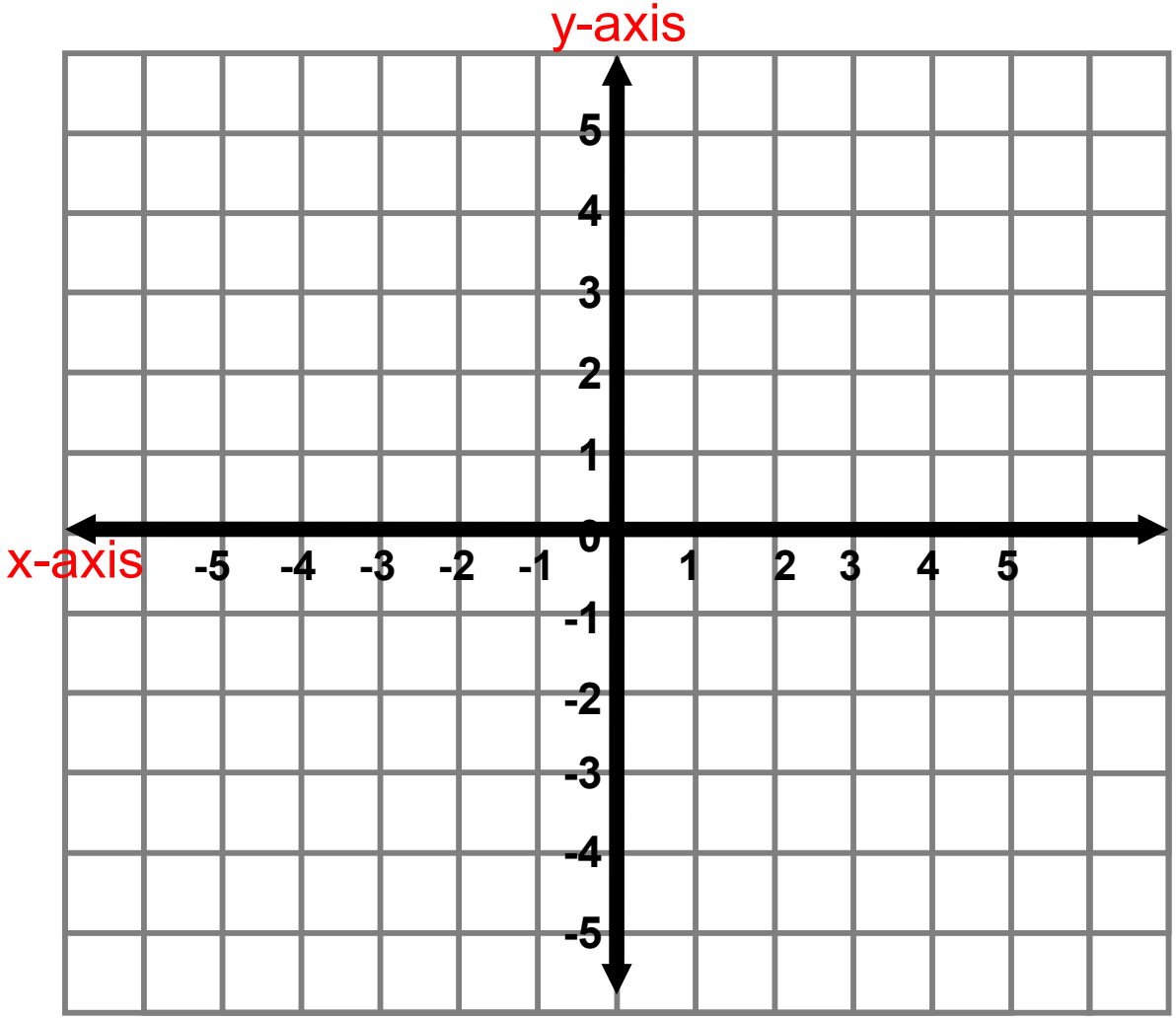
Using a T-Chart

7) Graph $y = \frac{1}{2}x - 3$ using a T-chart.



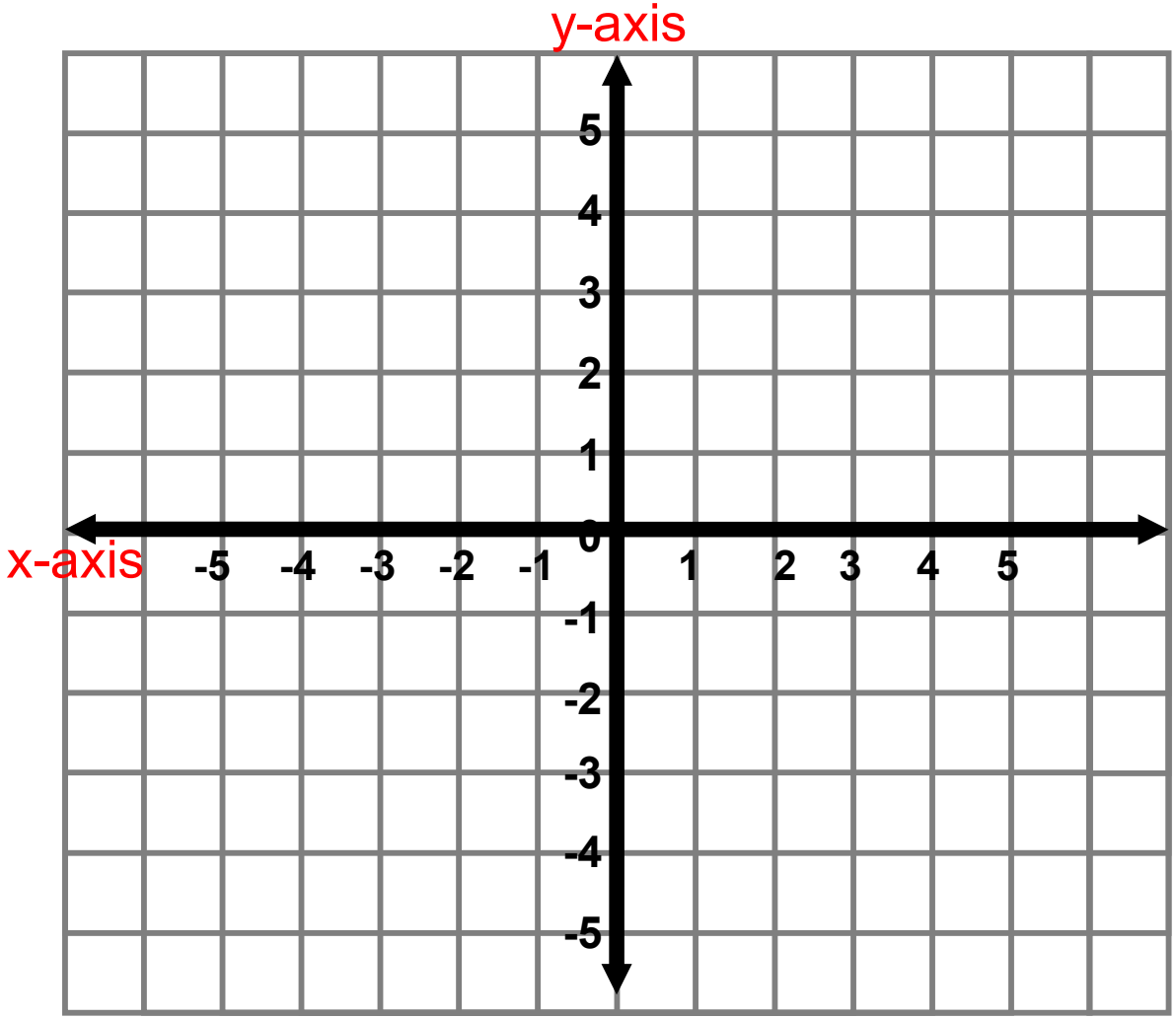
8) Graph the linear equation using a T-chart.

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



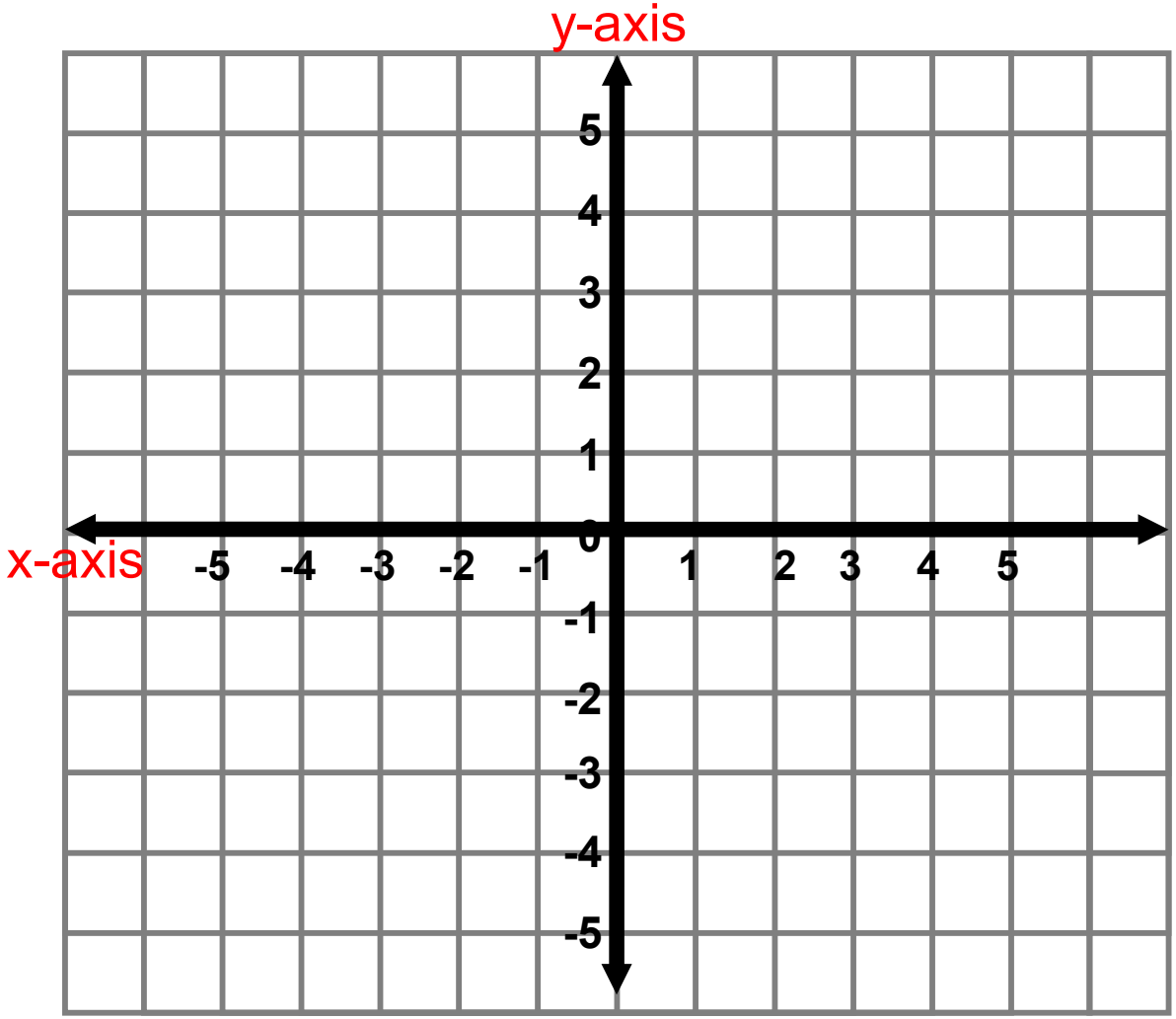
9) Graph the linear equation using a T-chart.

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



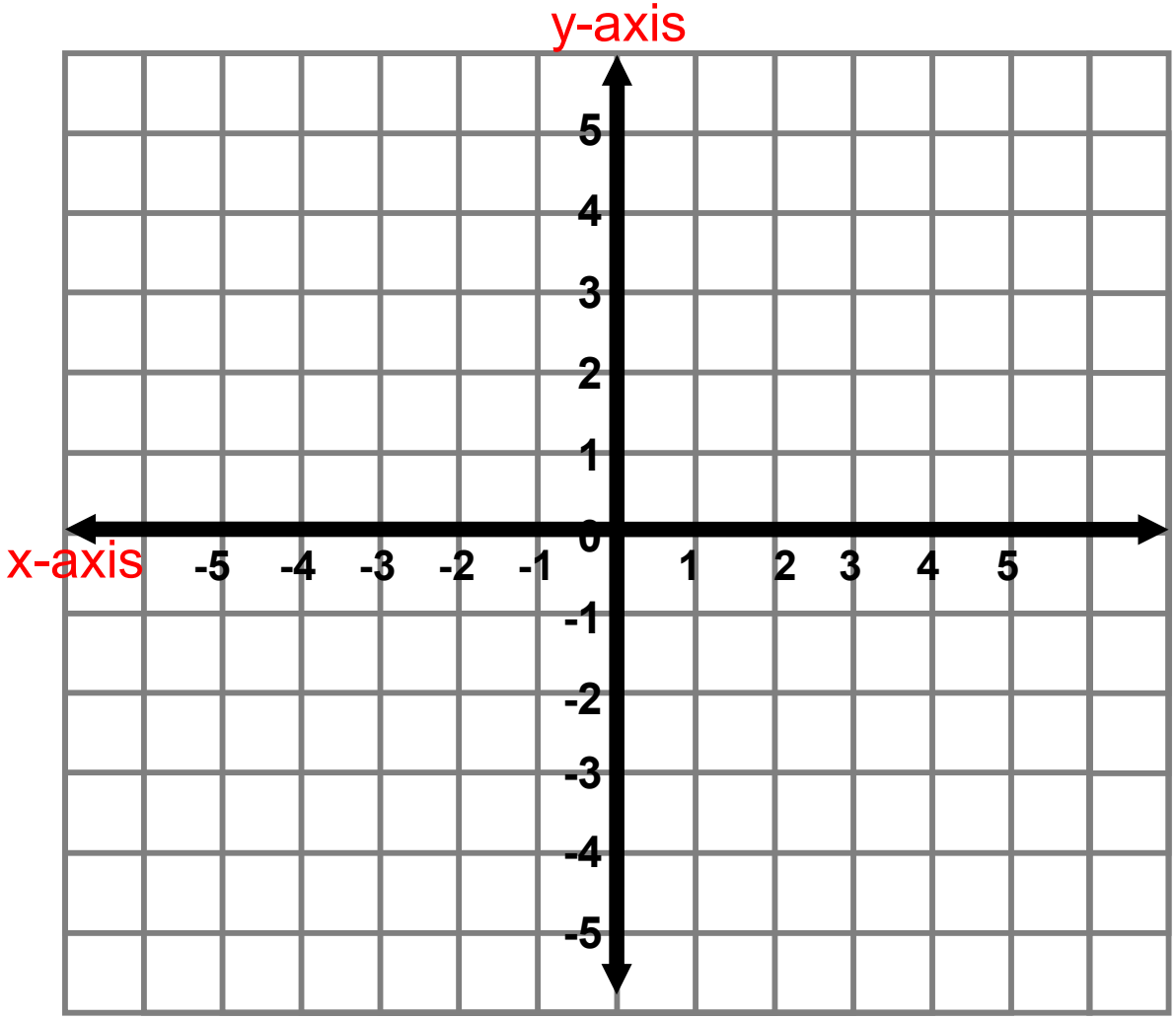
10) Graph the linear equation using T-chart.

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



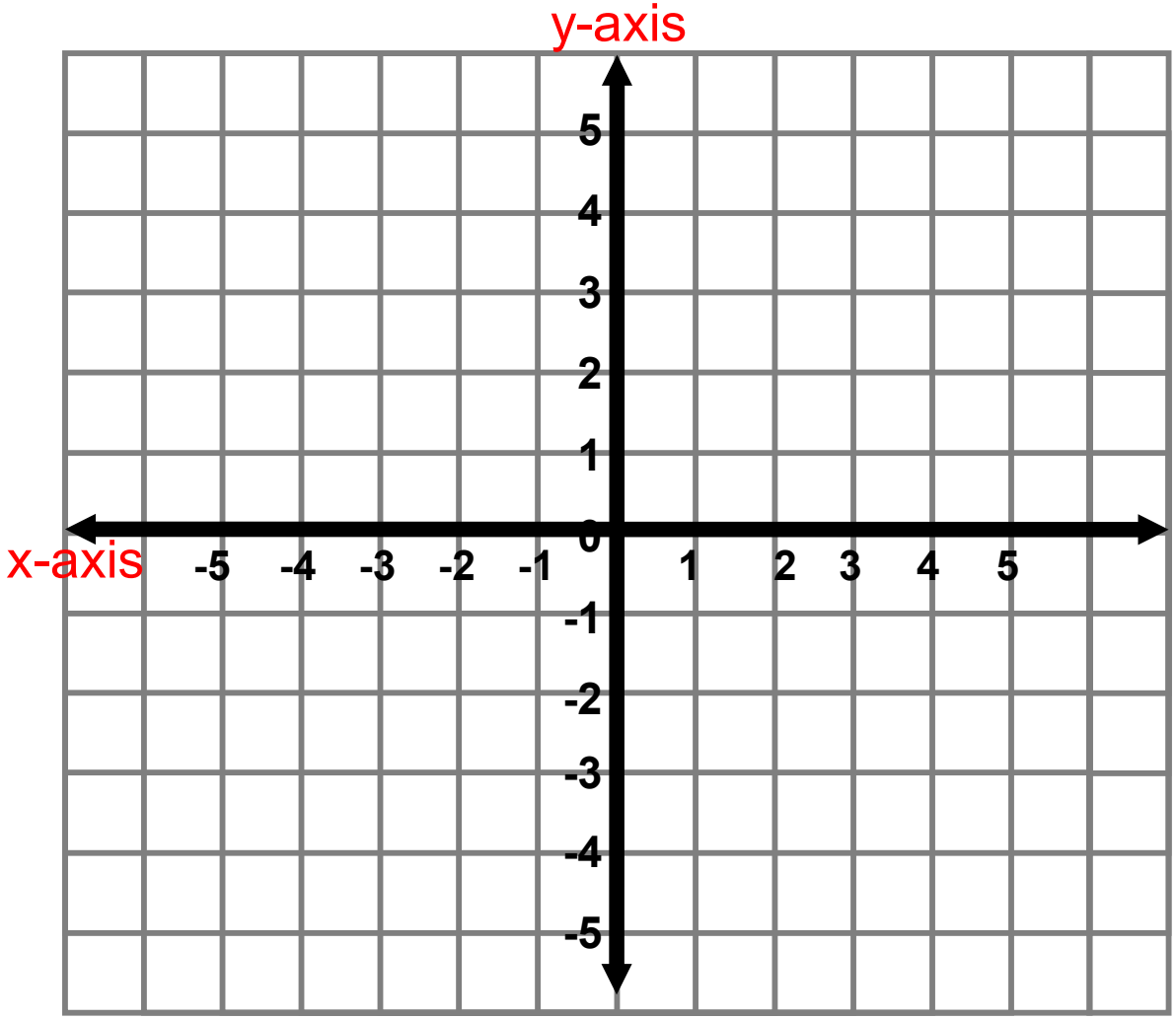
Graphing Horizontal and Vertical Lines

11) $y = 4$



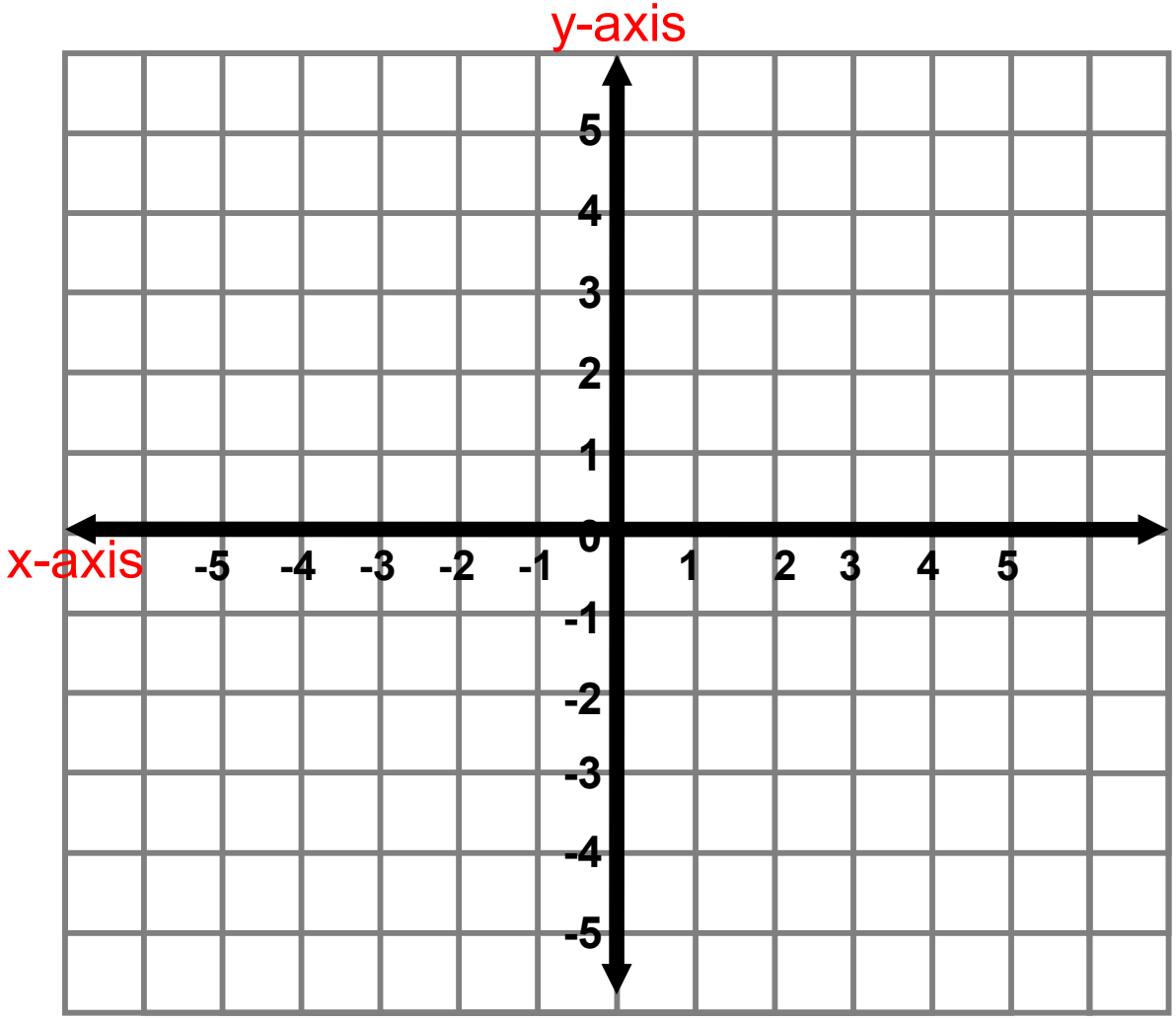
Graphing Horizontal and Vertical Lines

12) $x = 3$



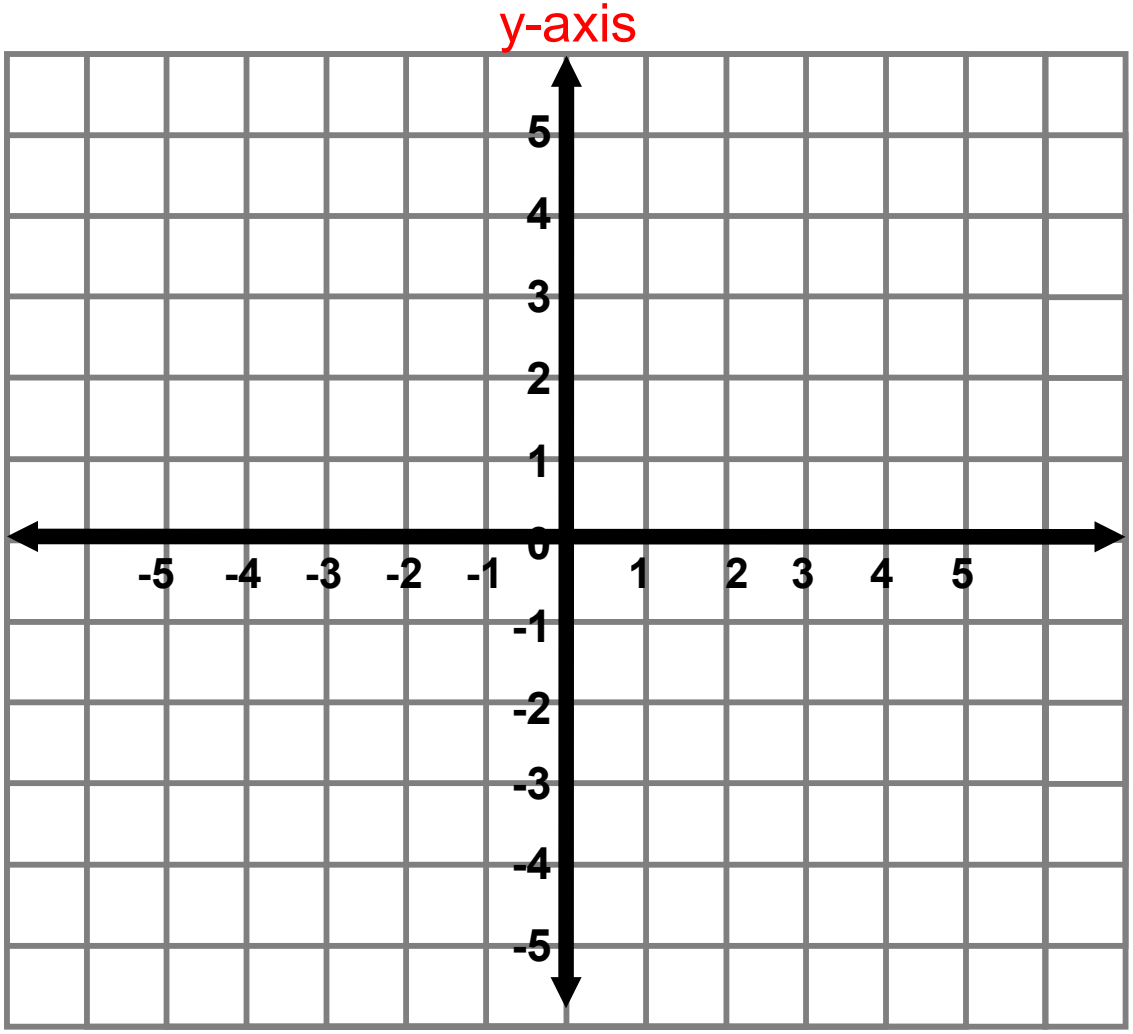
Graphing Horizontal and Vertical Lines

13) $y = -3$



Graphing Horizontal and Vertical Lines

14) $x = -5$



Solving Two-Step Equations

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

$a)\ 2x-35=15$

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

Examples

$c)\ -3x+1=7$

$d)\ \frac{1}{2}x-9=-25$

Review – Isolating an equation for y

1) $4x + y = 8$

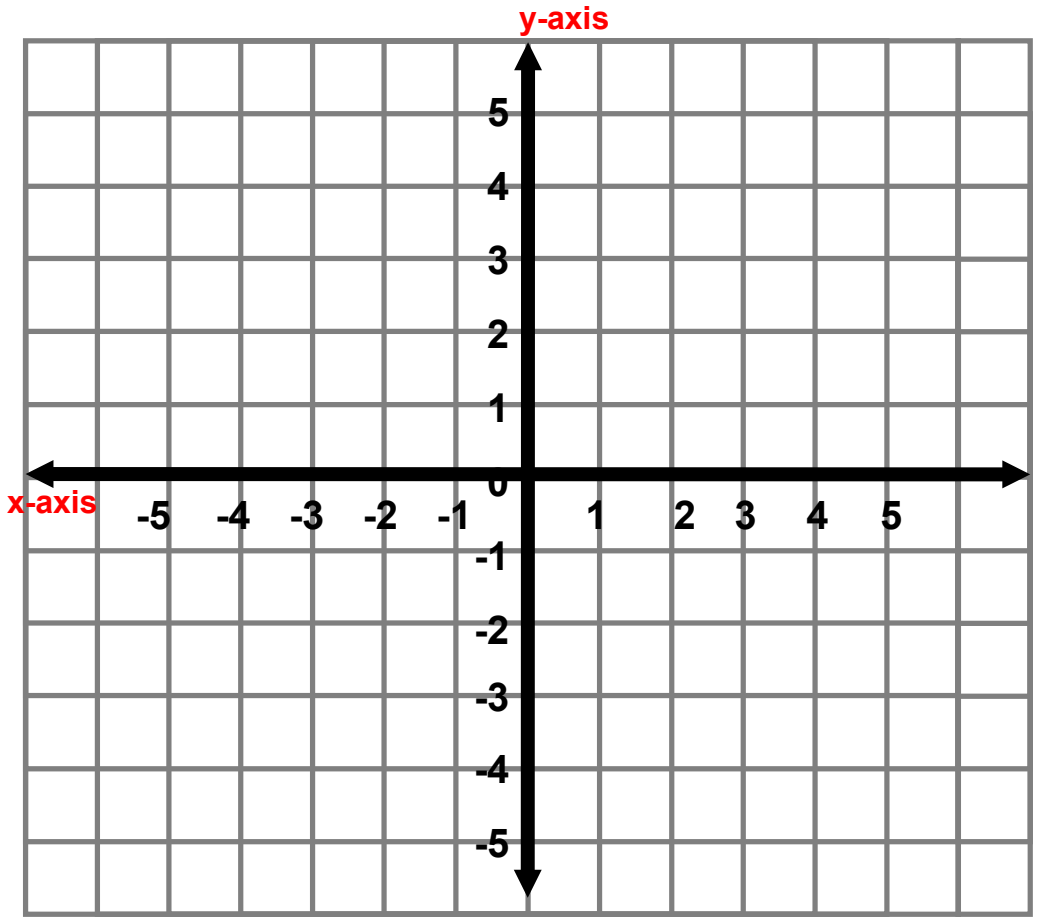
2) $\frac{2}{3}x + y = 3$

3) $8x + 4y = 16$

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

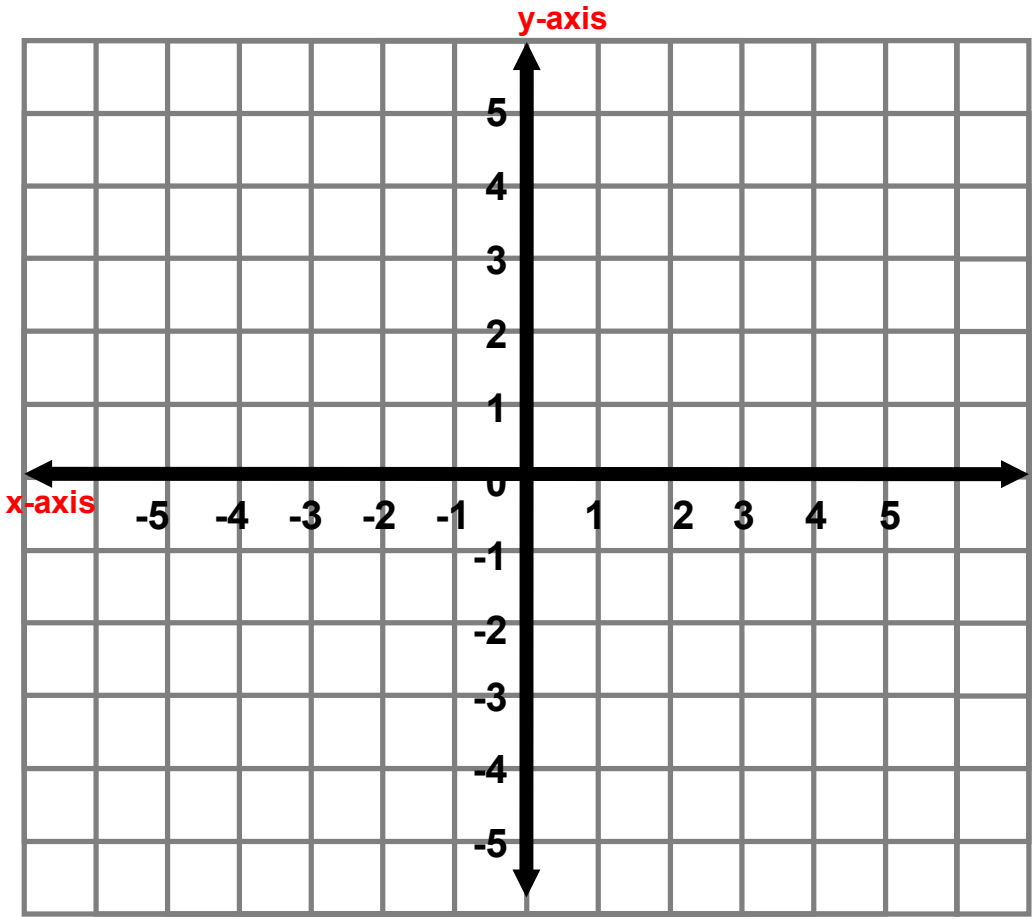
15) Solve for *y* and then graph the equation.

$$2x + y = -1$$



16) Solve for *y* and then graph the equation.

$$9x + 3y = 6$$



Application

A tropical storm becomes a hurricane when wind speeds are at least 74 miles per hour.

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?