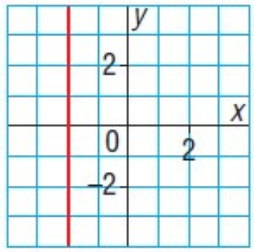
Check

4. Which equation describes each graph?

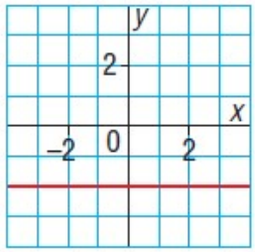
i) $x = -2$ ii) $x = 2$

iii) $y = -2$ iv) $y = 2$

a)



b)



5. Does each equation describe a vertical line, a horizontal line, or an oblique line? Describe each horizontal and vertical line.

a) $y = 7$

b) $x - y = 3$

c) $x = -5$

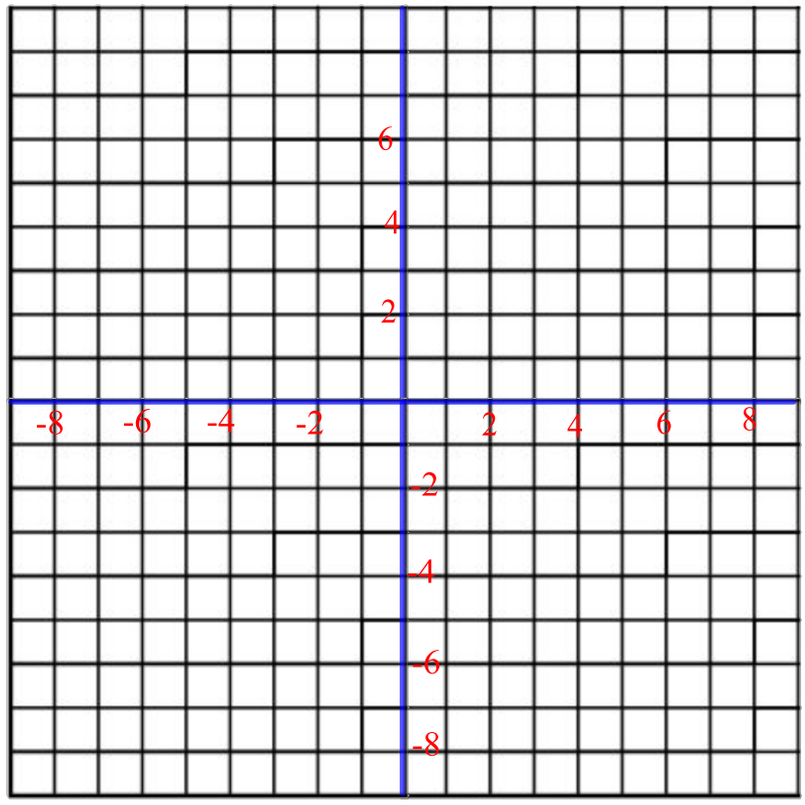
d) $x + 9 = 0$

e) $2y = 5$

f) $y = 6 - 2x$

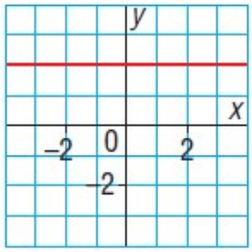
6. Describe the graph of each line. Graph each line to check your description.

a) $y = 5$ b) $x = -1$ c) $x = -5$ d) $y = 7$

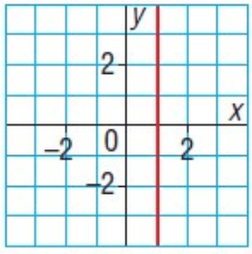


7. Write an equation to describe each line.

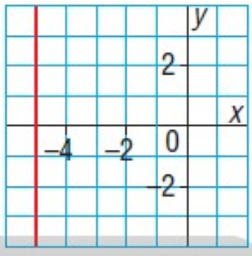
a)



b)



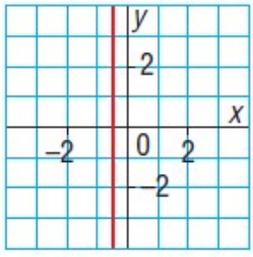
c)



8. Which equation best describes the graph below? Explain your choice.

a) $x - 2 = 0$ b) $2x + 1 = 0$

c) $2y - 1 = 0$ d) $2x - 1 = 0$



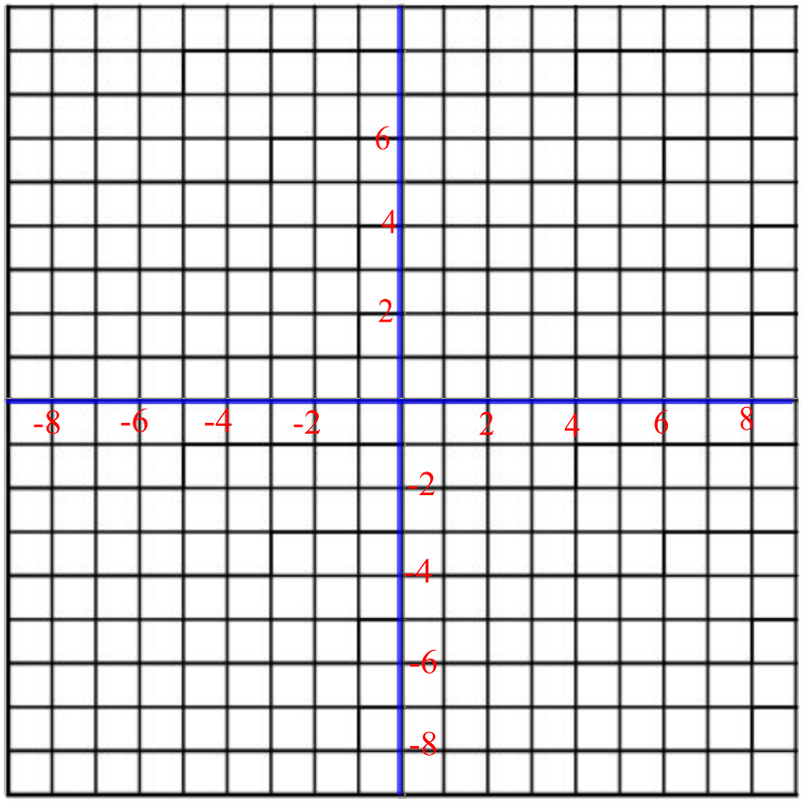
10. a) For each equation below:

- Make a table of values for $x = -2, 0,$ and 2.
- Graph the equation.

i) $x + y = 6$ ii) $x - y = 6$

iii) $x + y = -6$ iv) $x - y = -6$

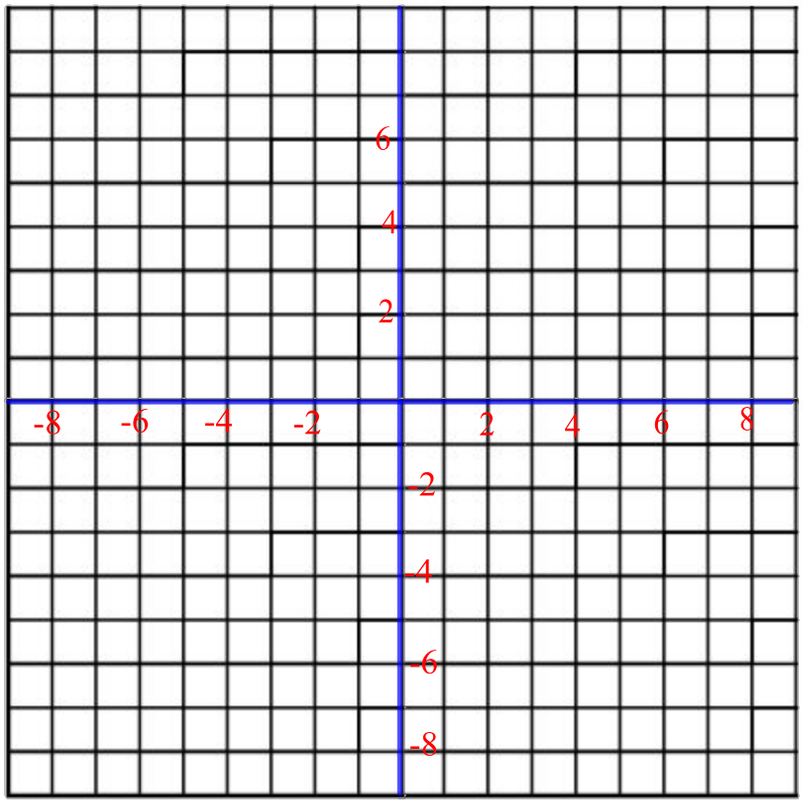
b) How are the graphs in part a alike? How are they different?



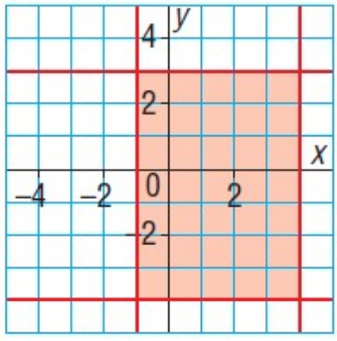
11. Graph each line. Explain your work.

a) $y + 3 = -2$ b) $2x = 7$

c) $3x + 1 = -5$ d) $2y - 2 = 10$



12. Write the equations of the lines that intersect to form the shaded rectangle.



13. Assessment Focus

a) Graph the following lines on the same grid. What shape do they form?

i) $x = -3$ ii) $y = 2$

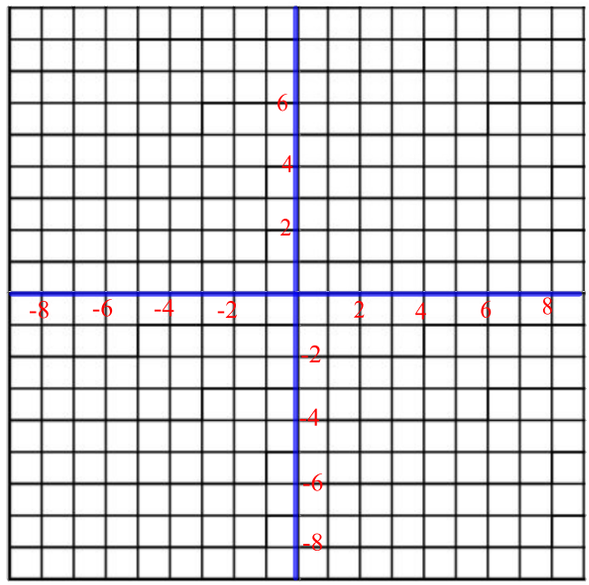
iii) $x - 1 = 0$ iv) $y + 2 = 0$

b) Construct a congruent shape on the grid with one of its vertices at the origin.

c) Write the equations of the lines that form the shape you drew.

d) Is there more than one shape you can draw in part b? If your answer is yes, draw any more possible shapes.

Show your work.



14. The distance between Edmonton and Calgary is about 300 km. Kate leaves Calgary to drive to Edmonton.
Let t kilometres represent the distance Kate has travelled. Let e kilometres represent the distance she has yet to travel to Edmonton.

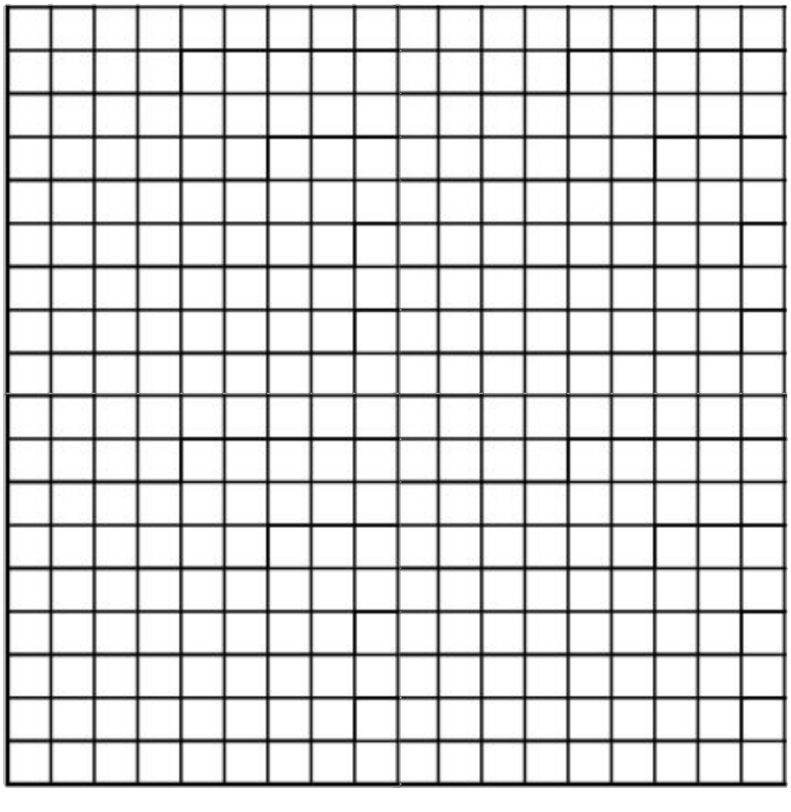
a) Copy and complete this table for 6 different values of t.

Distance Travelled, t (km)	Distance to Edmonton, e (km)
0	300

b) What is the greatest value of t that could be in the table? Explain.

c) Graph the data. Should you join the points? Explain.

d) Write an equation that relates t and e.

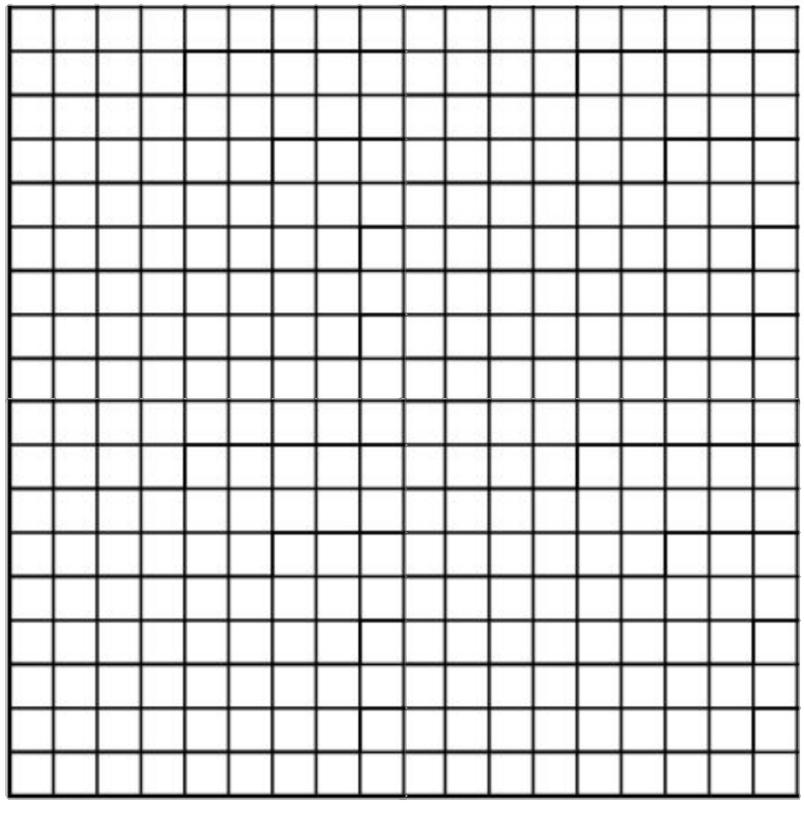


15. For each equation below:

- Make a table for the given values of x.
- Graph the equation.

a) $2x + y = 6$; fo

b) $3x - y = 2$; for

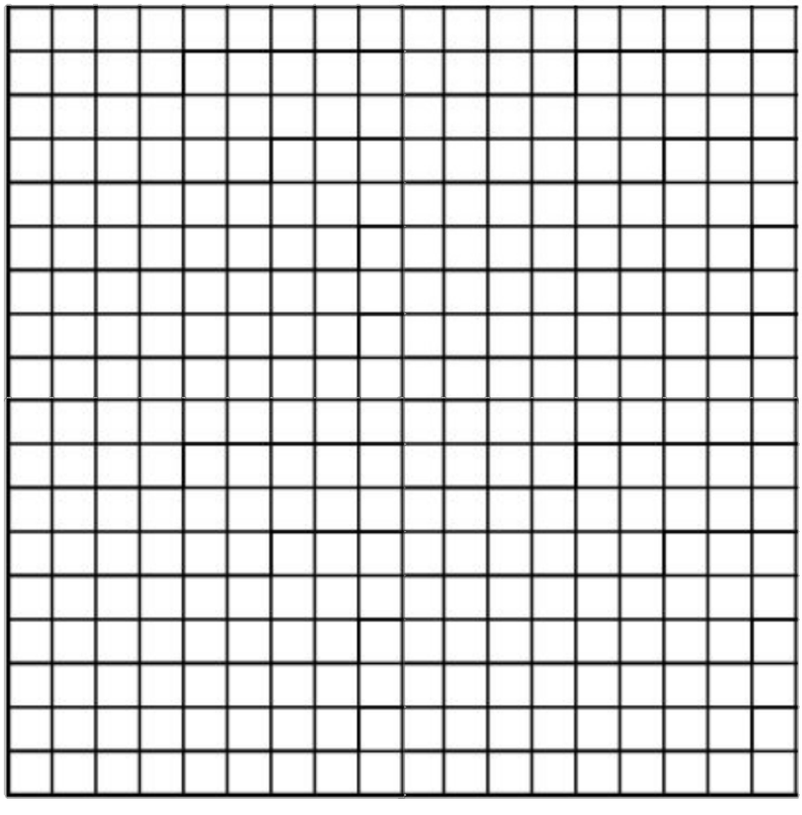


15. For each equation below:

- Make a table for the given values of x.
- Graph the equation.

c) $x + 2y = -6$

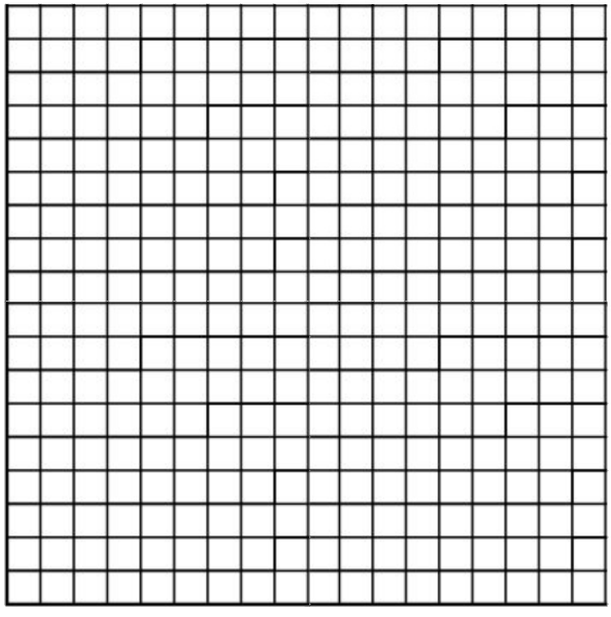
d) $3x - 2y = -6$



16. a) On a grid, draw horizontal and vertical lines to construct a shape that satisfies the following conditions:
- The shape is a square with area 9 square units.
- One vertex is at the origin.

b) Write the equations of the lines that form the square.

c) Is it possible to draw another square that satisfies the conditions in part a? If your answer is yes, draw this square and write the equations of the lines that form it.

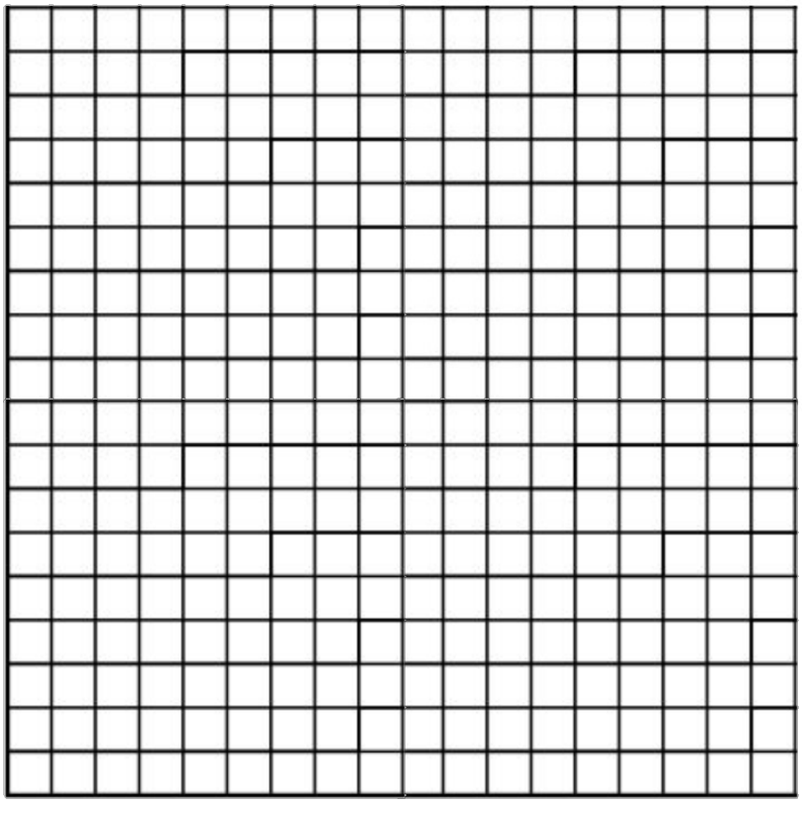


17. The difference of two numbers is 6.
Let a represent the greater number and b the lesser number.

a) Complete a table for 6 different values of a.

b) Graph the data. Should you join the points? Explain.

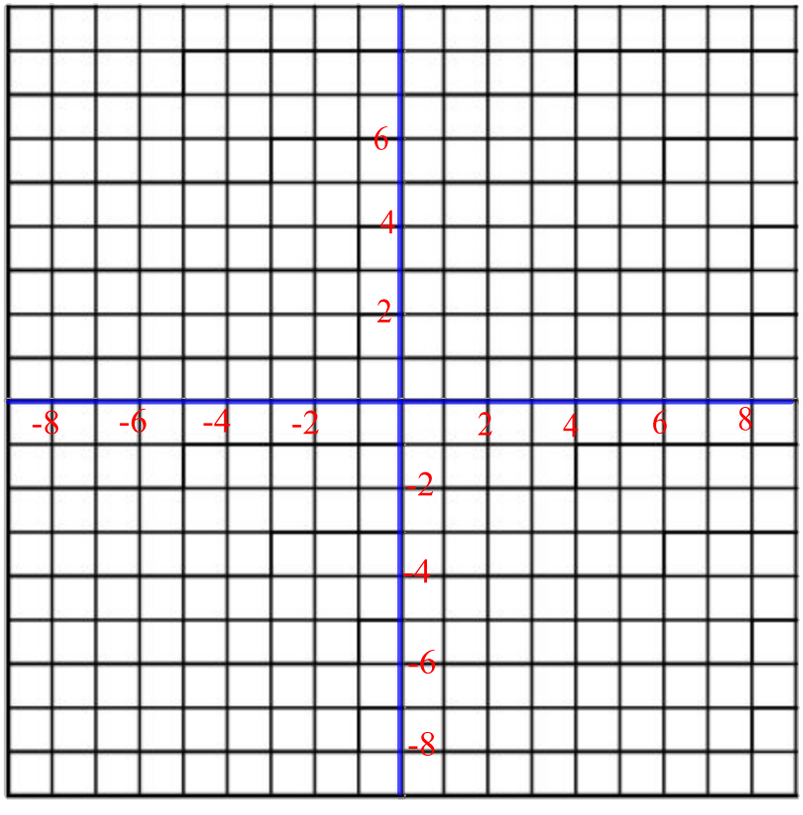
c) Write an equation that relates b and a.



18. a) Graph these equations on the same grid:

$x = 2$ $y = 1$ $x + y = 8$

b) What shape is formed by the lines in part a? How do you know?



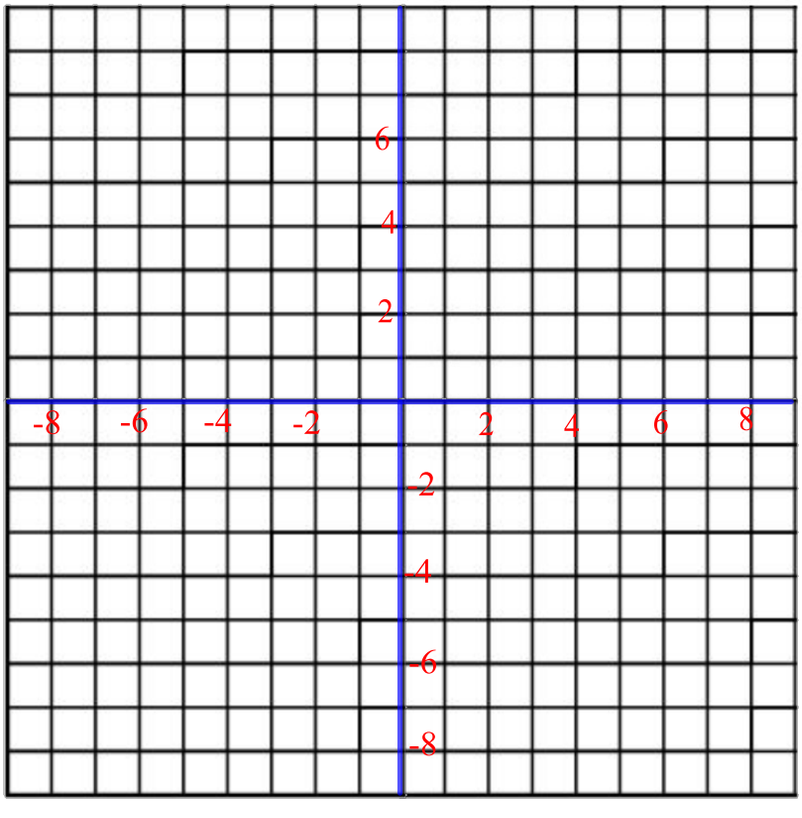
Take It Further

19. The sum of two rational numbers is $2\frac{1}{2}$.

a) Choose two variables to represent these rational numbers. Make a table to show 5 possible pairs of numbers that satisfy this relation.

b) Graph the data. Describe your graph.

c) Write an equation for the relation.

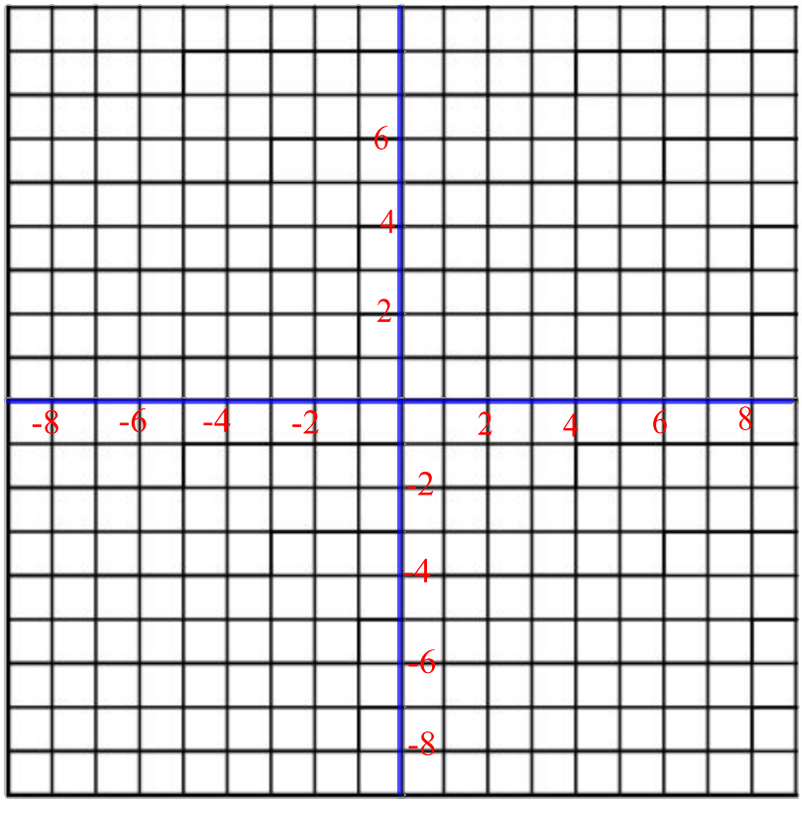


20. The difference of two rational numbers is -7.5.

a) Choose two variables to represent these rational numbers. Make a table to show 5 possible pairs of numbers that satisfy this relation.

b) Graph the data. Describe your graph.

c) Write an equation for the relation.

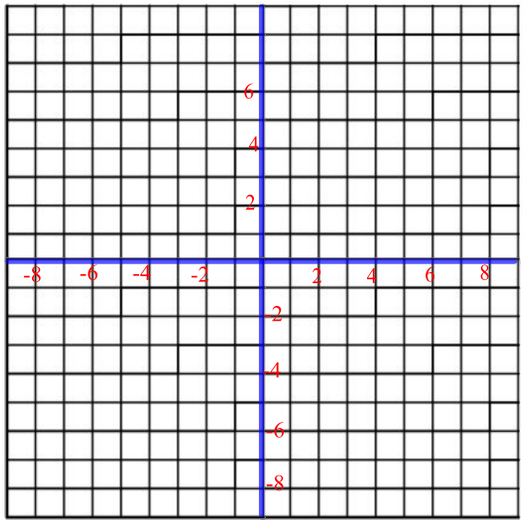


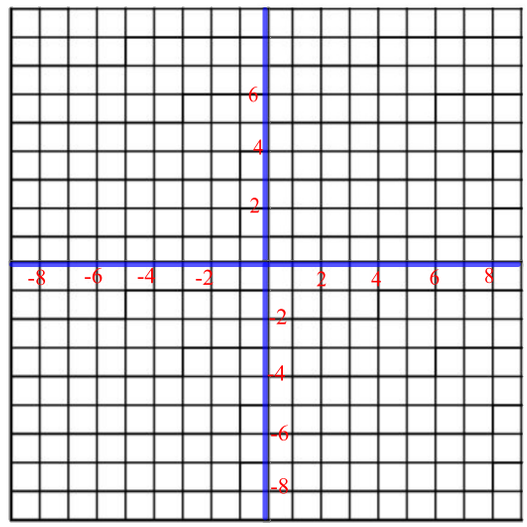
21. For each equation below:

- Make a table for 3 values of x.
- Graph the equation.

a) $\frac{1}{2}x + y = 4$

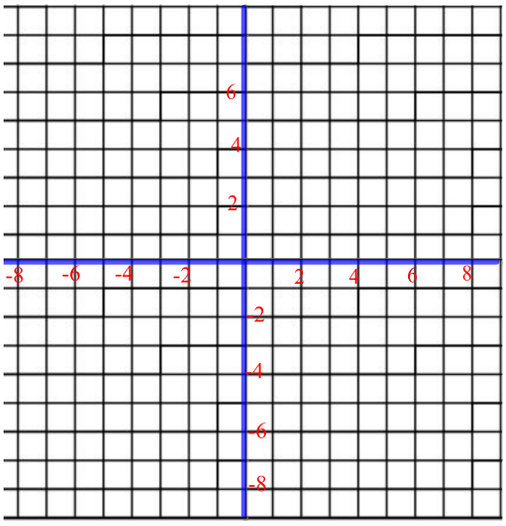
b) $\frac{1}{3}x - y = 2$

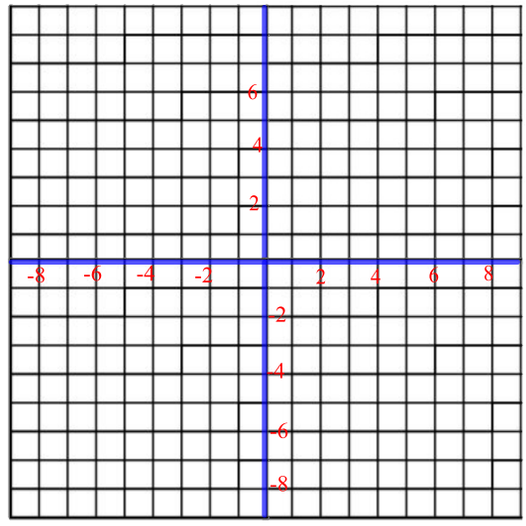




c) $\frac{1}{2}x + \frac{1}{3}y = 6$

d) $\frac{1}{3}x - \frac{1}{2}y = -1$





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

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