

1. For each given equation solve for a when $b = -3$

a. $a = -2b - 3$

b. $a = 4b + 6$

c. $a = -10 - 5b$

2. Here is a pattern made from square tiles.

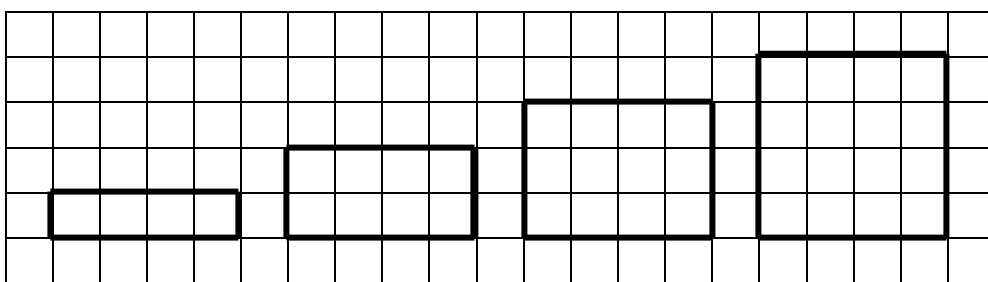


Figure 1

Figure 2

Figure 3

Figure 4

a. Make a table of values that shows how the number of square tiles, s , in a figure relates to the figure number, f .

f	s

b. Write an expression for the number of square tiles in terms of f .

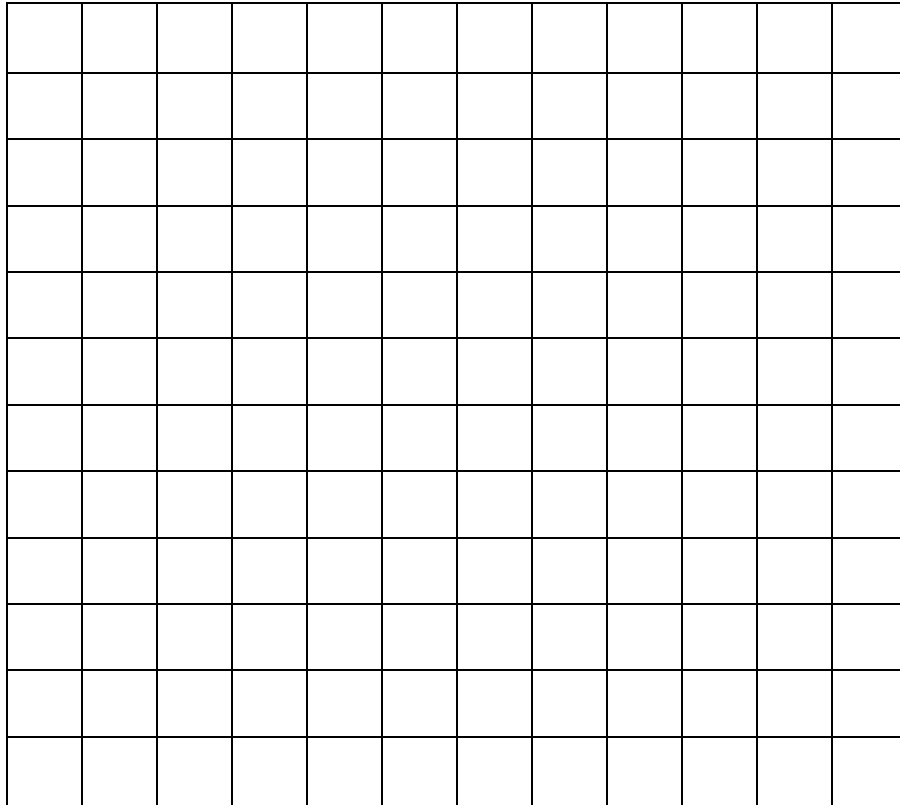
c. Write an equation that relates s and f . Verify the equation by substituting the values from the table.

d. How are the expression and equations alike? How are they different?

3. Norm has \$140 in his savings account. Each month he deposits \$20 into this account. Let t represent the time in months and A the account balance in dollars.

a. Create a table of values to show several values of t and A .

b. Graph the data. Will you join the points? Explain.



A 12x12 grid for graphing data. The grid consists of 12 columns and 12 rows of squares, providing a coordinate plane for plotting the relationship between time (t) and account balance (A).

c. Is this relation linear? Justify your answer.

d. Describe the pattern in the table. How are these patterns shown in the graph?

e. Write an equation that relates A and t .

4. Find the pattern in each table and determine the equation.

x	y
1	2
2	5
3	8
4	11
5	14

x	y
1	3
2	1
3	-1
4	-3
5	-5

5. Use each equation to complete each table of values.

$$y = 3x + 4$$

x	y
1	
2	
3	
4	

$$y = 10 - 2x$$

x	y
1	
2	
3	
4	

6. Does each equation describe a vertical, horizontal, or an oblique line? How do you know?

a. $2x + 9 = 0$

b. $2y - 7 = 3$

c. $2x + y = 7$

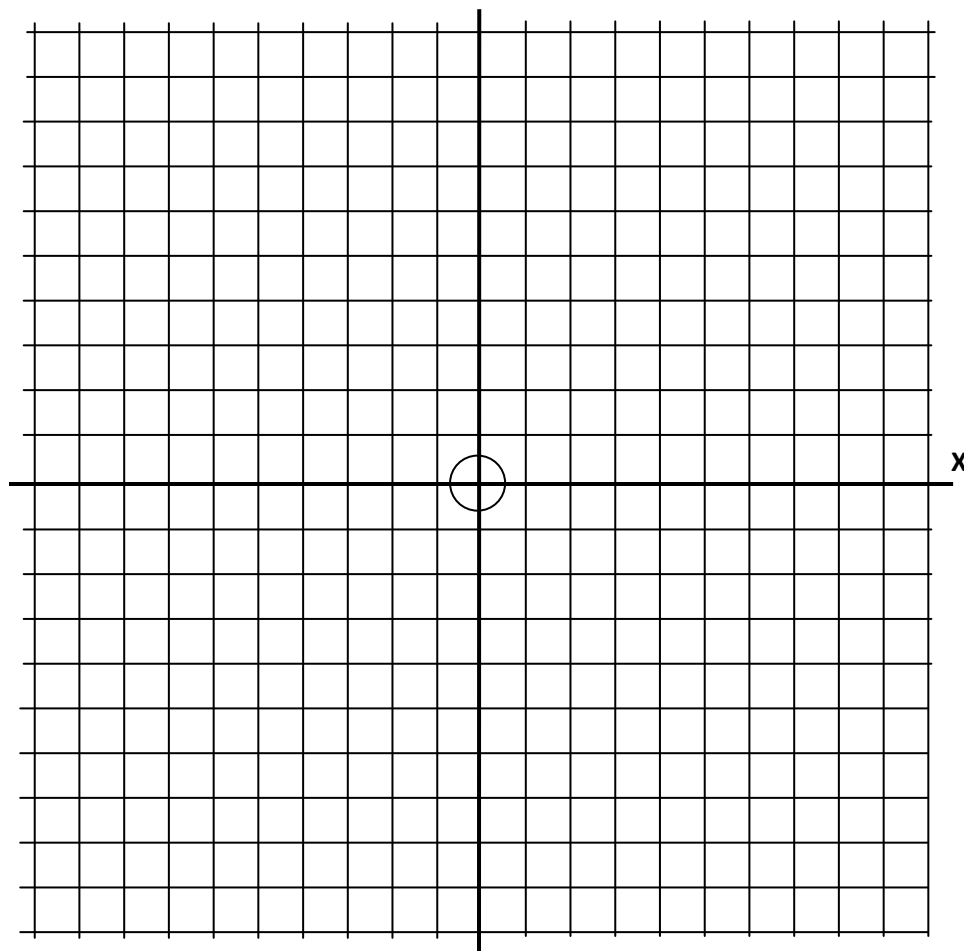
7. Draw the line of each equation on the grid and label it. (Use a ruler!)

y

a. $y = 1$

b. $x = -4$

c. $x + y = 8$



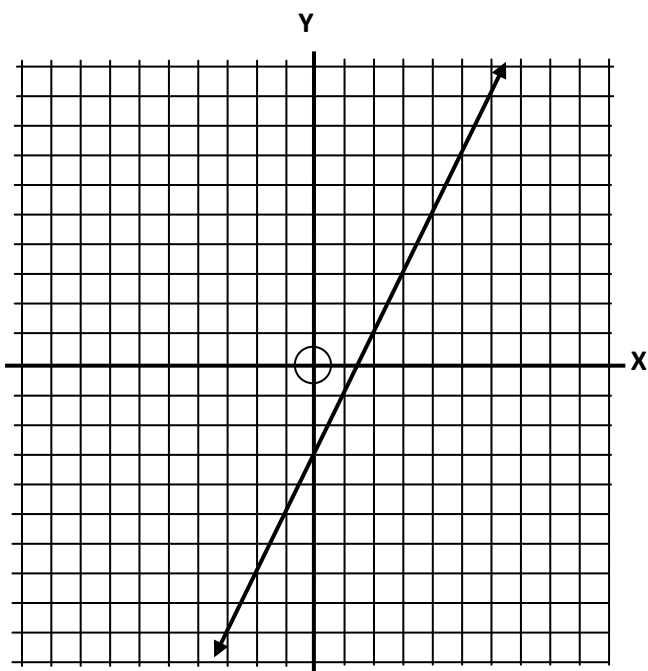
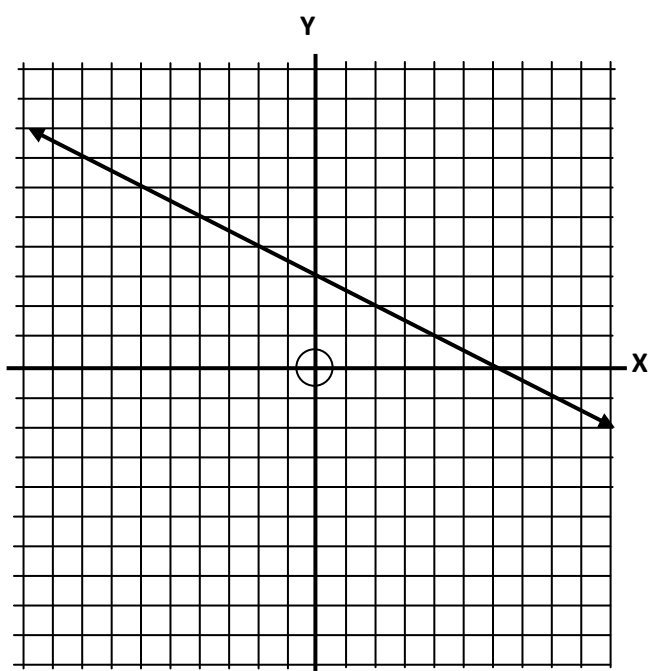
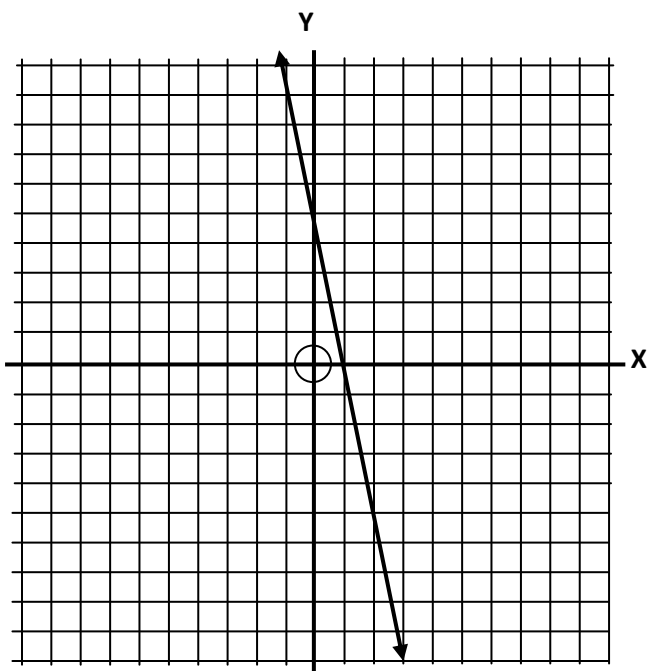
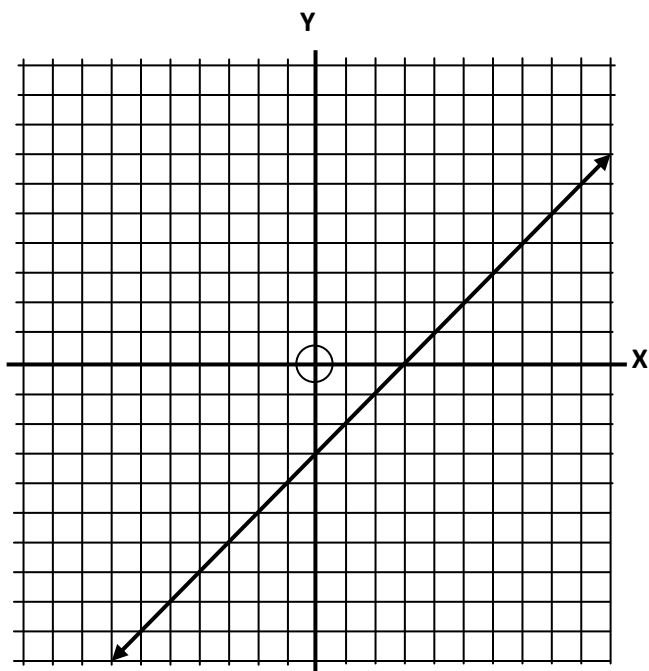
8. Match each equation with its graph below. Explain your strategy.

a. $x + 2y = 6$

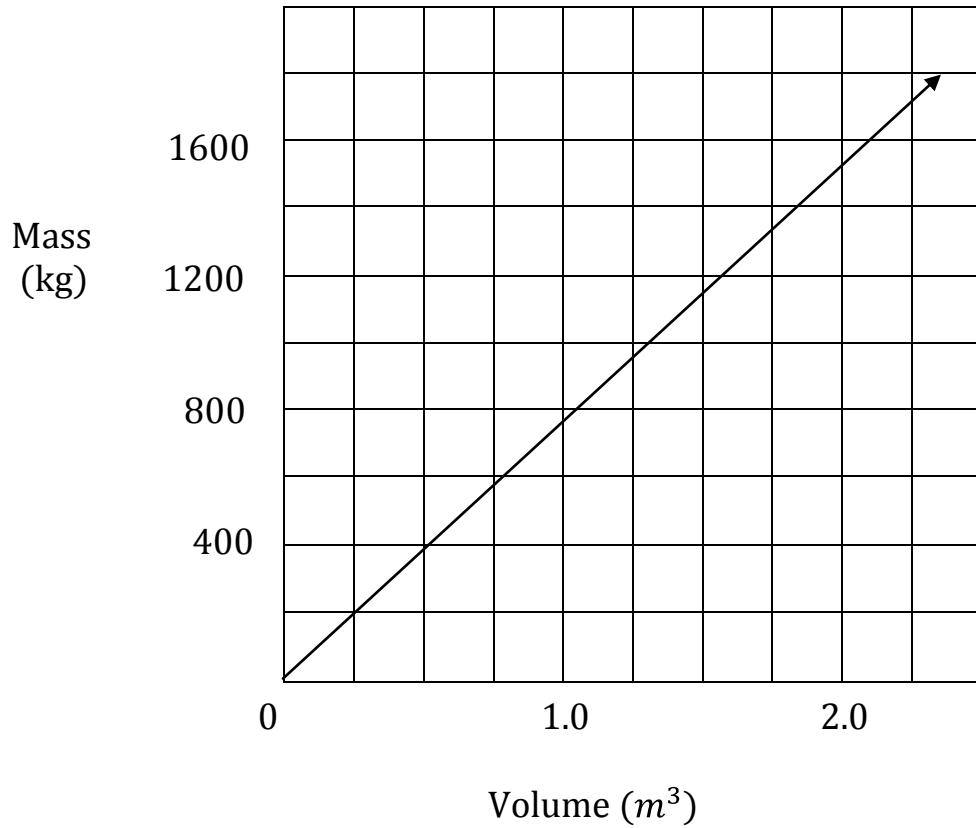
b. $y = x - 3$

c. $y = 2x - 3$

d. $y = -4x + 5$



9. This graph shows how the mass of wheat changes with its volume.



a. Use the graph to estimate the volume of 2200kg

b. Use the graph to estimate the mass of $2.5m^3$ of wheat.

10. This graph represents a linear relation.

a. Estimate the value of y when:

i. $x = -4$

ii. $x = 5$

b. Estimate the value of x when:

i. $y = 7$

ii. $y = -3$

