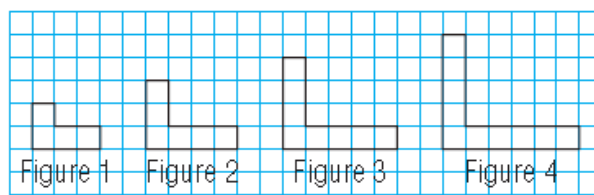


4.1

1. This pattern continues.

4



- Determine the perimeter of each figure.
- Draw the next 3 figures on grid paper.
- Make a table to show the number of each figure and its perimeter.
- Write an expression for the perimeter in terms of the figure number, n .
- Write an equation that relates the perimeter P to n .
- Determine the perimeter of figure 30.
- Determine the figure number that has perimeter 90 units.

4. Norman 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.
- Create a table to show several values of t and A .
 - Graph the data. Will you join the points? Explain.
 - Is this relation linear? Justify your answer.
 - Describe the pattern in the table. How are these patterns shown in the graph?
 - Write an equation that relates A and t .

5. Copy and complete each table of values.

Describe the patterns in the table.

a) $y = 4x$ b) $y = 10 - 2x$ c) $y = 3x + 4$

x	y
1	
2	
3	

x	y
0	
1	
2	

x	y
-3	
-2	
-1	

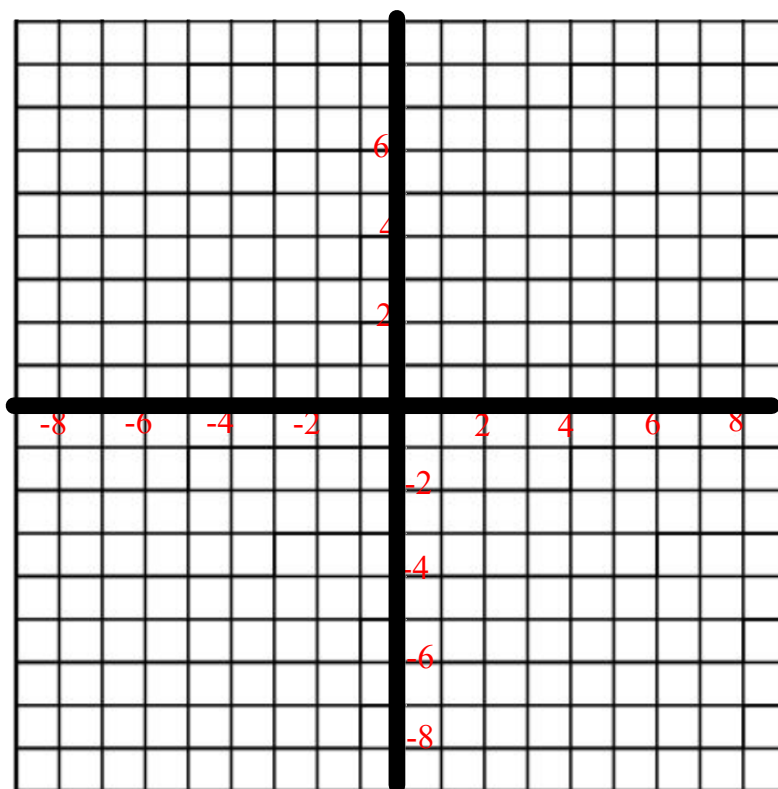
8. Graph each equation. Do you need to make a table of values each time? Explain.

a) $x = -2$

b) $y = 3$

c) $x = 5$

d) $y = -1$



10. Does each equation represent a vertical line, a horizontal line, or an oblique line?
How can you tell without graphing?

a) $x = 6$

b) $x - y = 3$

c) $y + 8 = 0$

d) $2x + 9 = 0$

11. Which equation describes the graph below?

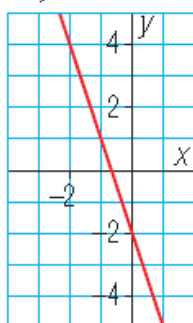
Justify your answer.

a) $y = -2x + 3$

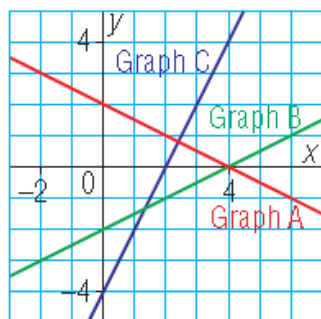
b) $y = 2x - 3$

c) $y = 3x - 2$

d) $y = -3x - 2$



12. Which graph represents the equation $x - 2y = 4$? How do you know?



13. Match each equation with its graph below.

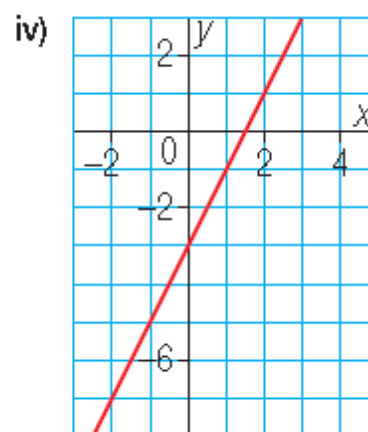
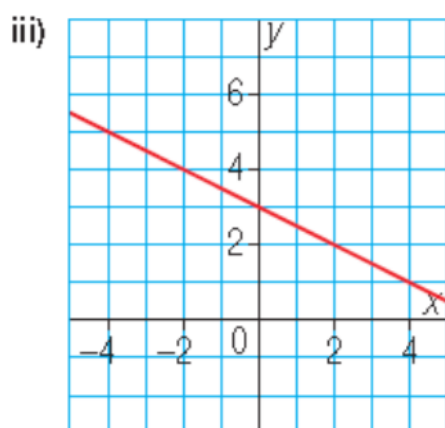
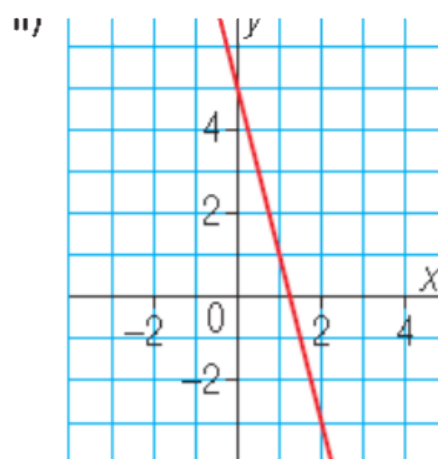
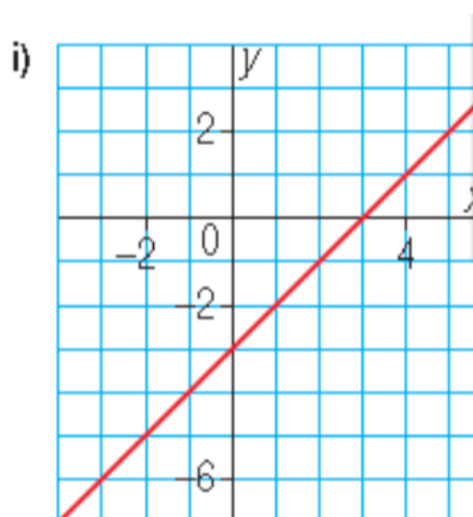
Explain your strategy.

a) $x + 2y = 6$

b) $y = x - 3$

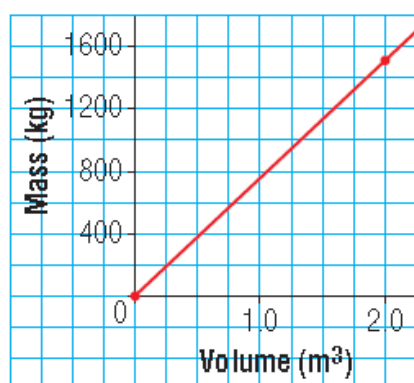
c) $y = 2x - 3$

d) $y = -4x + 5$



- 4.5 14. This graph shows how the mass of wheat changes with its volume.

Mass against Volume for Wheat

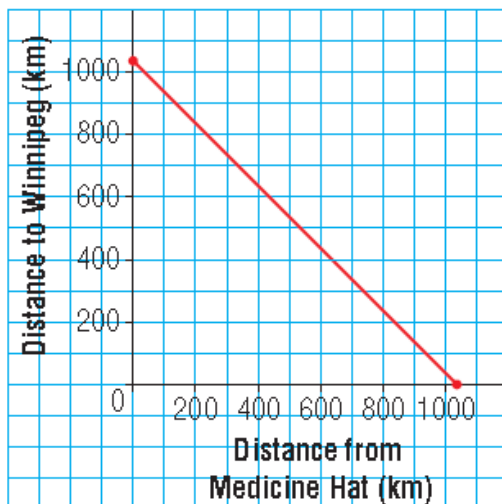


Use the graph.

- Estimate the volume of 2000 kg of wheat.
- Estimate the mass of 2.5 m³ of wheat.

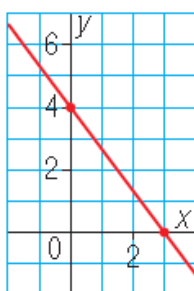
15. Harold and Jenny are driving from Medicine Hat to Winnipeg. The graph shows the distance travelled and the distance yet to go.

Journey from Medicine Hat to Winnipeg



- a) About how far is it from Medicine Hat to Winnipeg? How can you tell from the graph?
- b) When Jenny and Harold have travelled 450 km, about how far do they still have to go?

17. This graph represents a linear relation.



a) Estimate the value of y when:

i) $x = -4$

ii) $x = 2$

iii) $x = 5$

b) Estimate the value of x when:

i) $y = 7$

ii) $y = 2$

iii) $y = -3$

Explain how you estimated.