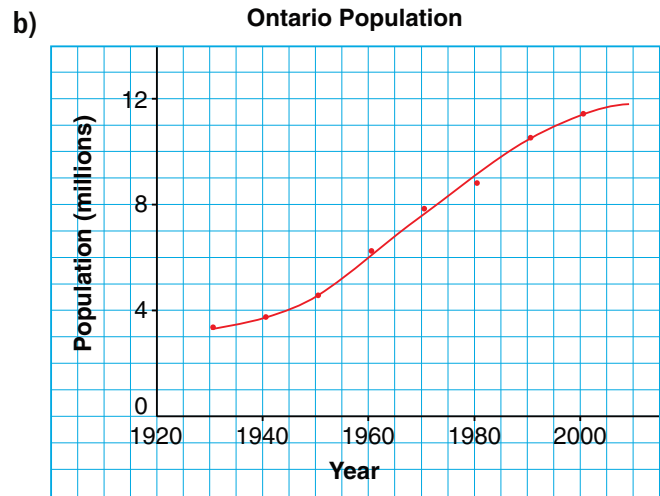
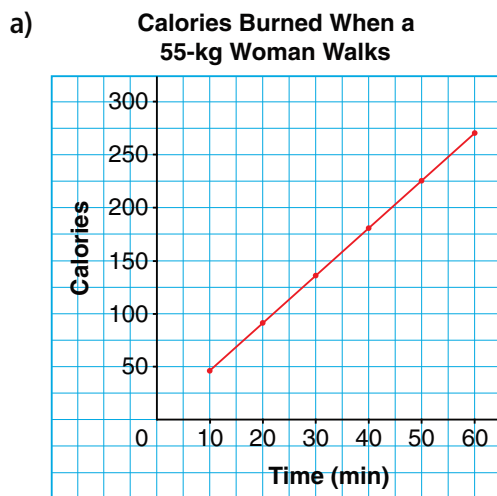


Practice

1. Two graphs are shown. Is each relationship linear or non-linear?

Explain how you know.



2. Use the graphs in question 1.

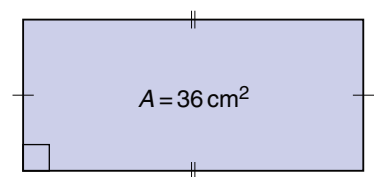
- a) i) About how many calories does a 55-kg woman burn when she walks for 30 min? For 45 min?
 ii) What was the approximate population of Ontario in 1945? In 1995?

- b) Write a question of your own that can be answered using one of the graphs.

Exchange questions with a classmate. Answer your classmate's question.

3. In Chapter 2, you investigated the dimensions and perimeter of a rectangle when its area was given. Here are some data for a rectangle with area 36 cm^2 .

Width (cm)	Length (cm)
1	36
2	18
3	12
4	9
6	6



- a) Is the relationship between length and width non-linear? Justify your answer.
- b) Graph the data. Does the graph illustrate your answer to part a? Explain.
- c) Use the graph.
- i) Determine the length when the width is 5 cm.
- ii) Determine the width when the length is 8 cm.
- d) Write a rule for the relationship.

We can also determine this mass by extending the table.

After 30 h, the mass is 6.25 g.

After 36 h, the mass is 3.125 g.

We get an exact answer using the table.

We assume that the person is not consuming any more caffeine during this time.

4. Use 1-cm grid paper.

a) Draw squares with side lengths from 1 cm to 6 cm.

b) Calculate the area of each square.

Copy and complete this table.

c) Graph the data.

Describe any trends in the graph.

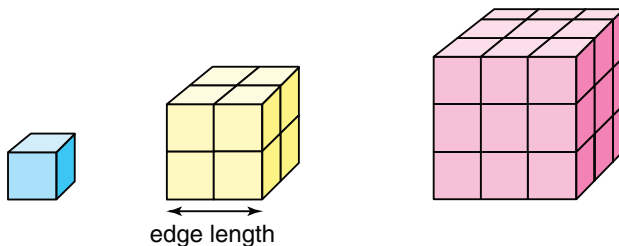
d) Estimate the area of a square with side length 4.5 cm.

e) Estimate the area of a square with side length 7.5 cm.

f) How could you check your answers to parts d and e?

Side length (cm)	Area (cm ²)
0	
1	

5. Assessment Focus The first 3 solids in a pattern are shown.



a) Describe the pattern in the cubes.

b) Sketch the next 2 solids in the pattern.

Copy and complete this table.

c) Describe any trends in the data.

d) Suppose you know the edge length of a solid in this pattern.

i) How can you determine the number of cubes needed to build it?

ii) How is this number related to the volume of the solid?

e) Add rows to your table for the next 2 solids in the pattern.

f) Graph the data.

g) How is the volume of a solid related to its edge length?

Write a rule.

h) What is the edge length of the solid with 512 cubes?

i) How many cubes would be needed for the 10th solid?

j) How many different ways could you answer parts h and i?

Edge length	Number of cubes
1	
2	