

# Percentages and variation

## Exercise 1

Find the decimal multiplier

(1) 20%

(4) 98%

(7) 125%

(2) 50%

(5) 32%

(8) 145%

(3) 80%

(6) 56%

(9) 268%

## Exercise 2

A cereal bar is 50g.

25% of the cereal bar is fibre and 31% is carbohydrates.

How grams of fibre are in the cereal bar?

How grams of carbohydrates are in the cereal bar?

## Exercise 3

Given the bad weather, the big beach bazaar is selling off its beach items.

Complétez ce tableau

items	price before discount	% discount	€ discount	New price
blouse	25€	20%		
beach dress			5€	40€
sandals		40%		24€
bath sheet	15€			10€
swimwear	12€	33%		

## Exercise 4

Johann has left the game show! Only 11,021 viewers voted for him out of the 35,550 who called in.

Determine the percentage of calls that were for Johann.

## Exercise 5

Lara invests £7000 for 5 years, with a simple interest of 4% per year.

Work out the total interest Lara gets.

**Exercise 6**

At the Hotel de la Plage, off-season room rates are €40.

During the low season, the first increase was 20%.

Since 15 June, when we entered High Season, they have risen by a further 30%.

Paul says: 'The rooms have gone up by 50% in total !

Is he right? Answer yes or no and explain.

**Exercise 7**

Last year Matt paid £420 for house insurance. This year Matt has to pay £381 for house insurance.

Calculate the percentage change in their house insurance.

# Linear function

## Exercise 1

Identify the linear functions among the following.

$$f(x) = \frac{5}{6}x + 7$$

$$h(x) = 6x^2 + 15$$

$$g(x) = x$$

$$y - 2 = 3(x + 1) + 3$$

## Exercise 2

Fill in the blanks with respect to the linear function  $f(x) = -3x + 4$ .

x	-3		0		2
f(x)		10		-5	

## Exercise 3

The relationship between Celsius degrees and Fahrenheit degrees is linear. Some equivalent values are shown in the table below. Find the linear function representing the given data.

Celsius (°C)	Fahrenheit (°F)
5	41
10	50
15	59
20	68

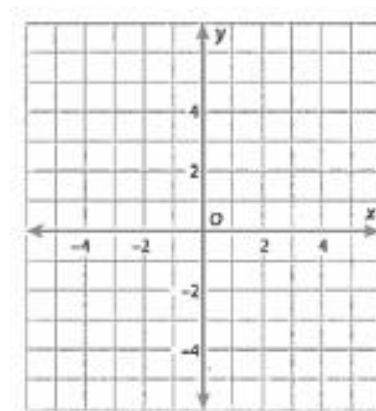
## Exercise 4

The cost (in dollars) of renting a car is represented by  $C(x) = 32x + 50$ , where  $x$  is the number of days the car is rented for. Then what is the cost of renting the car for 10 days?

## Exercise 5

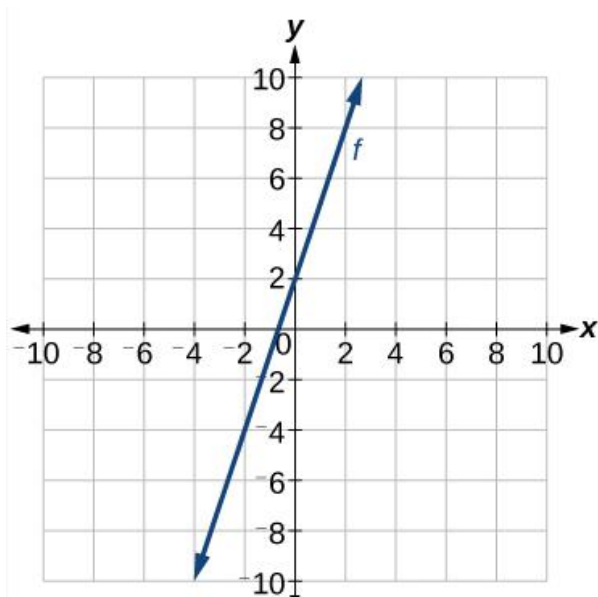
Use the equation  $y = 2(x + 3)$  to complete the table of values. Then use the table of values to make a graph. Does the equation  $y = 2(x + 3)$  represent a linear function?

x	y
-2	
-1	
0	
2	
1	



### Exercise 6

Write the equation of a linear function from the given graph.



### Exercise 7

1. Determine the equation for each linear function shown on the graph.
2. Determine whether the function is increasing, decreasing or constant. Explain your answer.

