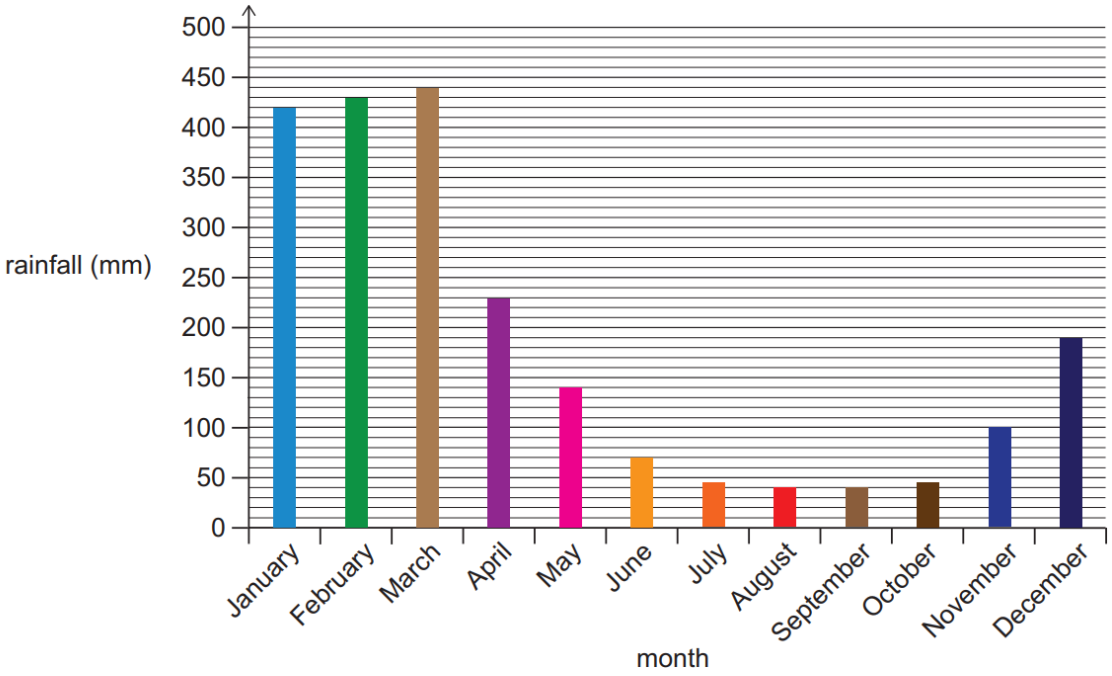
Topic 9 - Data & Graphing

1

The graph shows the average monthly rainfall in Cairns for one year.



Here are three statements about the graph.

1 June had more than twice as much rainfall as August.

2 December had 9 cm more rainfall than November.

3 The rainfall in February, March and April combined was more than 1 metre.

Which of these statements are correct?

A statement 1 only

B statement 2 only

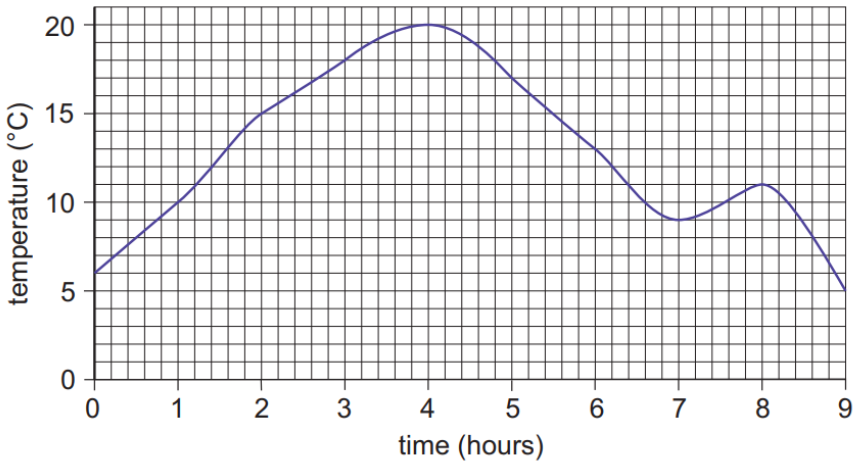
C statements 1 and 2 only

D statements 2 and 3 only

E statements 1, 2 and 3

2

Here is a graph showing the outdoor temperature during a period of 9 hours.



Which of these statements are true?

1 The temperature was 10°C at four different times.

2 The temperature change between 1 hour and 3 hours was greater than the temperature change between 4 hours and 6 hours.

3 The lowest temperature was 5°C.

A none of the statements

B statements 1 and 2 only

C statements 1 and 3 only

D statements 2 and 3 only

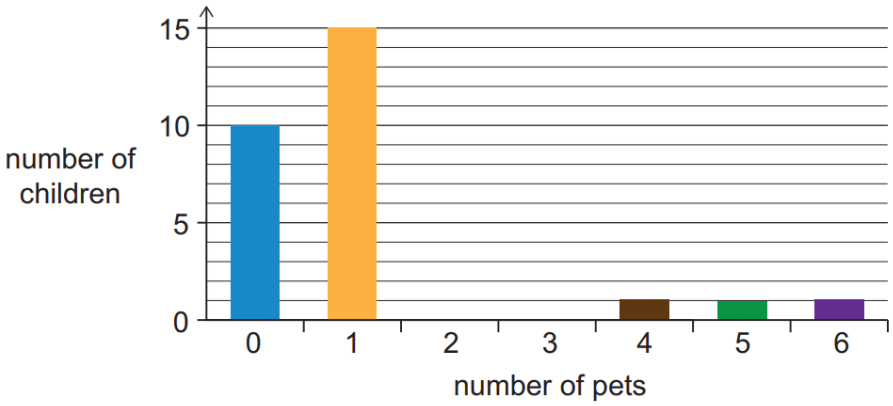
E statements 1, 2 and 3

3

40 children were asked how many pets they have.

Most of the results are shown below in the column graph, but the bars for two and three pets are missing.

The number of children with two pets is twice the number with three pets.



How many children have two pets?

A 4

B 6

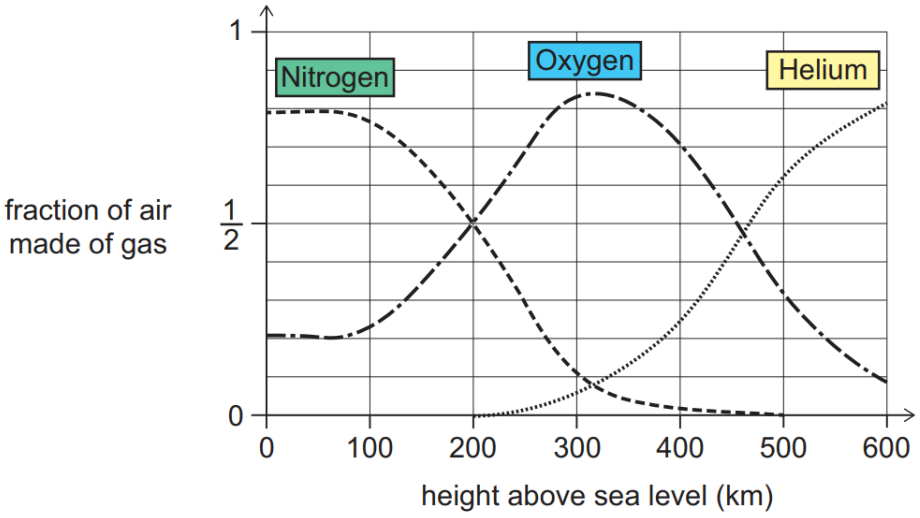
C 8

D 10

E 12

4

This graph shows what fraction of the air is made of different types of gas, at different heights above sea level.



Which of these statements is/are correct?

X At any height above sea level, the fraction of nitrogen is higher than the fraction of helium.

Y There is more than one height at which the fractions of oxygen and helium are the same.

Z At 200 km above sea level, the air is about half nitrogen and half oxygen.

A none of them

B statement X only

C statement Y only

D statement Z only

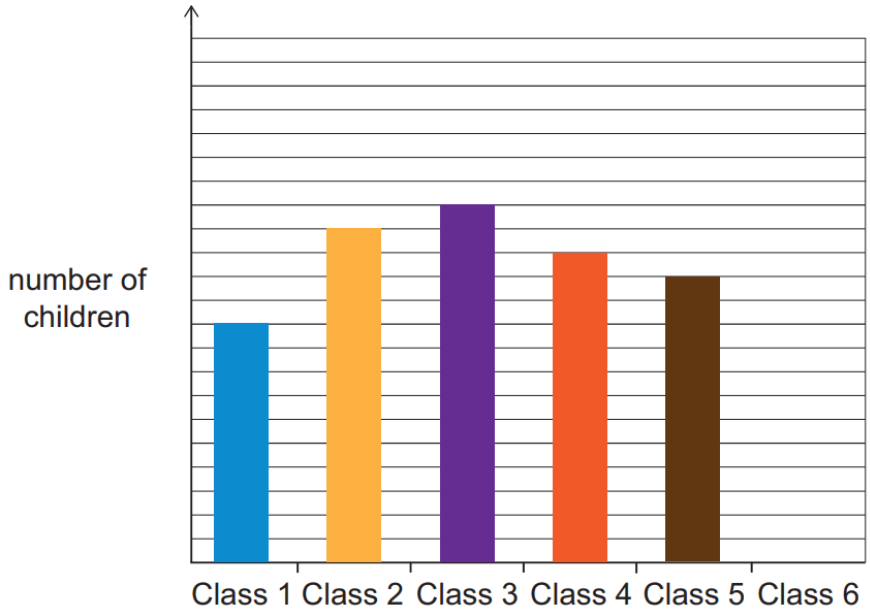
E statements X, Y and Z

5

There are a total of 160 children in six classes in a school.

The column graph shows the number of children in classes 1 to 5. The column for Class 6 has not been drawn.

There are 30 children in Class 3.



How many children are in Class 6?

A 21

B 26

C 32

D 41

E 42

6

The table shows the exact times taken by five racing drivers to complete one lap of a motor racing circuit.

name	time (seconds)
Smith	58.117
Cruz	58.208
Adams	58.046
Batra	58.2
Evans	58.31

Who were the fastest three drivers, in order, starting with the fastest?

A Evans, Cruz, Batra

B Evans, Cruz, Smith

C Batra, Evans, Adams

D Adams, Smith, Evans

E Adams, Smith, Batra

7

Jennifer sells bunches of flowers. She wants to make a picture graph to show the data in the table.

day	number of bunches of flowers sold
Monday	24
Tuesday	28
Wednesday	36

She wants to use these pictures **only** in her picture graph:

whole flower

half flower

She will not draw any other fractions of a flower.

Which of these keys can she use to represent the data correctly?

key X:  represents 4 bunches

key Y:  represents 8 bunches

key Z:  represents 12 bunches

A none of them

B key X or key Y only

C key X or key Z only

D key Y or key Z only

E key X, Y or Z

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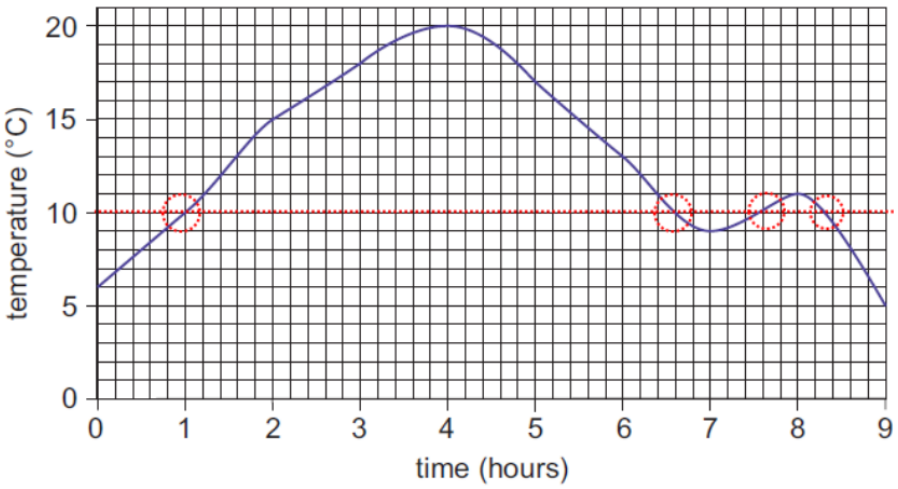
Answer Key

1	Checking each statement in turn: **1** *June had more than twice as much rainfall as August.* June's rainfall was 70 mm. August's rainfall was 40 mm. 40 × 2 = 80 and 70 is less than 80, so statement 1 is not correct. **2** *December had 9 cm more rainfall than November.* December's rainfall was 190 mm. November's rainfall was 100 mm, so December's rainfall was 90 mm more than November's rainfall. 90 mm = 9 cm, so statement 2 is correct. **3** *The rainfall in February, March and April combined was more than 1 metre.* February's rainfall was 430 mm. March's rainfall was 440 mm. April's rainfall was 230 mm. 1 metre is 1000 mm, and 430 + 440 + 230 = 1100 which is greater than 1000, so statement 3 is correct. Statements 2 and 3 are correct, so the correct answer is **D statements 2 and 3 only**.

2	Checking each statement in turn: ***1*** *The temperature was 10°C at four different times.* Reading horizontally across from 10, the places where the reading is 10 have been circled. There are four places, so statement 1 is correct.  ***2*** *The temperature change between 1 hour and 3 hours was greater than the temperature change between 4 hours and 6 hours.* Between 1 hour and 3 hours, the temperature changes from 10°C to 18°C, an increase of 8 degrees. Between 4 hours and 6 hours, the temperature changes from 20°C to 13°C, a decrease of 7 degrees. A change of 8 degrees is greater than a change of 7 degrees. So statement 2 is correct. ***3*** *The lowest temperature was 5°C.* At 9 hours, the reading is 5°C. The graph does not go any lower than this at any point, so statement 3 is correct. The correct answer is **E statements 1, 2 and 3** are all correct.
3	C
4	D
5	C
6	E
7	B