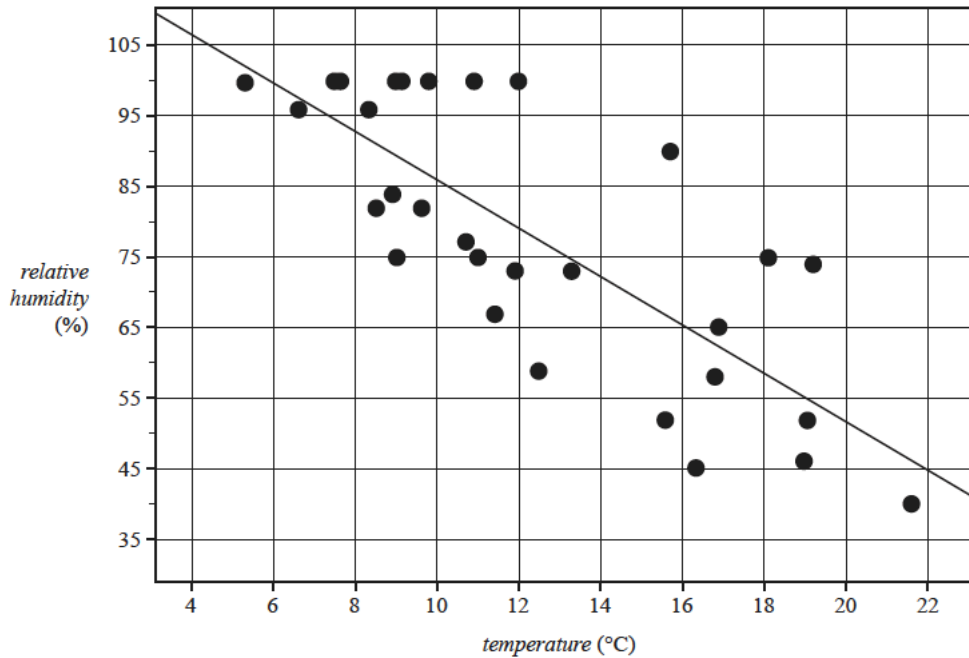


Warm up Number 16 (2022 Exam 2)

Question 4 (5 marks)

The scatterplot below shows the *relative humidity* (%) at 9 am plotted against the *temperature* (°C) at 9 am for the 30 days of November 2021.

A least squares line has been fitted to the scatterplot.



The equation of the least squares line is

$$\text{relative humidity} = 120.1 - 3.417 \times \text{temperature}$$

The coefficient of determination is 0.6073

- a. The equation of the least squares line can be used to predict *relative humidity* at 9 am from the *temperature* at 9 am.

Name the explanatory variable.

1 mark

- b. Describe the association between *relative humidity* and *temperature* in terms of strength and direction.

1 mark

DO NOT WRITE IN THIS AREA

- c. Interpret the slope of the least squares line in terms of the variables *relative humidity* and *temperature*. 1 mark

- d. On the day when the *temperature* at 9 am was 16.3 °C, the *relative humidity* was 45.0%.
The following least squares line can be used to predict the relative humidity at 9 am on this day.

$$\text{relative humidity} = 120.1 - 3.417 \times \text{temperature}$$

Calculate the residual value.

Round your answer to one decimal place.

2 marks
