



Scatter plots

GRADE 8 MATH

Name _____

Date _____

Give both the direction and the shape whenever you describe a pattern.

WORKED EXAMPLE

Direction: positive, negative, none. Shape: linear or non-linear — a separate answer. Outliers are investigated, not deleted. Association is not causation: name the third variable.

1. Describe the association you would expect between a car's age and its value.

APPLICATION

Show your thinking

Answer

2. Describe the association you would expect between a person's height and the day of the month they were born.

REASONING

Show your thinking

Answer

3. A study finds that towns with more libraries have more crime. Explain the pattern without claiming libraries cause crime.

REASONING

Show your thinking

Answer

4. A scatter plot of practice hours against free-throw success rises steeply at first and then almost flattens. Describe the association, and explain what a straight line would get wrong.

REASONING

Show your thinking

Answer

5. One point on a plot of height against arm span reads (150 cm, 15 cm). What is it, and what is the most likely explanation?

REASONING

Show your thinking

Answer

6. Give an example of two things with a strong association where one DOES cause the other.

REASONING

Show your thinking

Answer

7. Why does a scatter plot need two measurements from each individual rather than two lists of numbers?

REASONING

Show your thinking

Answer

8. A claim says “students who eat breakfast get better grades, so schools should provide breakfast.” What would you need to know before accepting it?

REASONING

Show your thinking

Answer