

Grade 8 - Scatter Plots and Association - Quiz

Common Core 8.SP.A.1, 8.SP.A.2 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

Pick the best answer for each of the 10 questions about scatter plots, patterns of association, outliers and informal trend lines (Common Core 8.SP.A.1 and 8.SP.A.2). Read each question carefully, then read the explanation to learn from any mistake.

Grade 8 · Common Core State Standards: **8.SP.A.1, 8.SP.A.2**

Questions

Question 1

As the temperature rises, hot cocoa sales fall. This is a

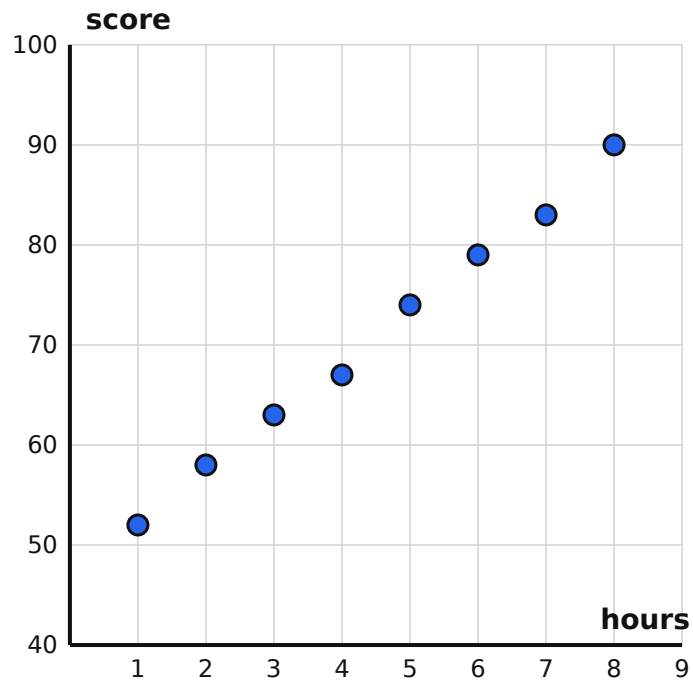
- A. positive association
- B. negative association
- C. no association
- D. nonlinear association

Question 2

A point far from the rest of the points in a scatter plot is called a(n)

- A. outlier
- B. cluster
- C. trend line
- D. slope

Question 3

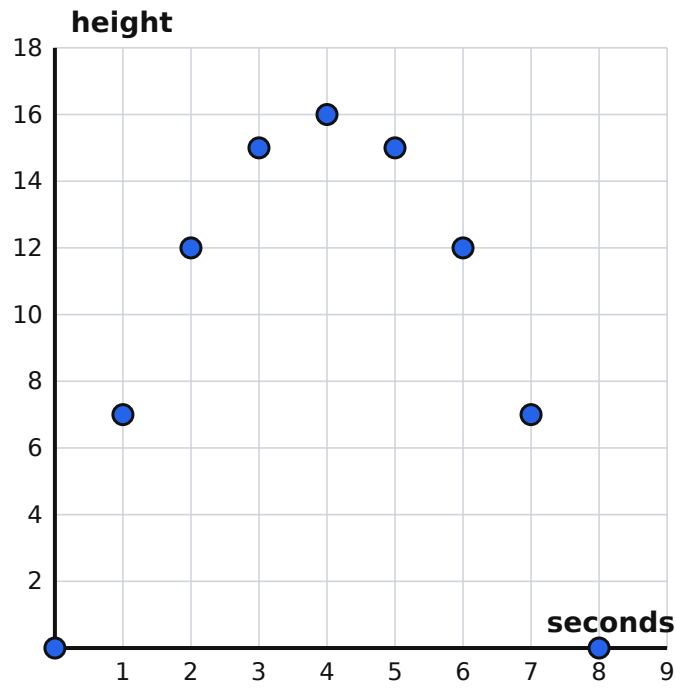


Study data.

What type of association does the scatter plot show?

- A. Negative and linear
- B. Positive and nonlinear
- C. Positive and linear
- D. No association

Question 4



A thrown ball.

The scatter plot is best described as

- A. linear and positive
- B. linear and negative
- C. having no pattern
- D. nonlinear

Question 5

A trend line has the equation $y = 2x + 5$. What is the predicted y when $x = 10$?

- A. 20
- B. 25
- C. 15
- D. 7

Question 6

A trend line passes through (0, 10) and (4, 30). What is its slope?

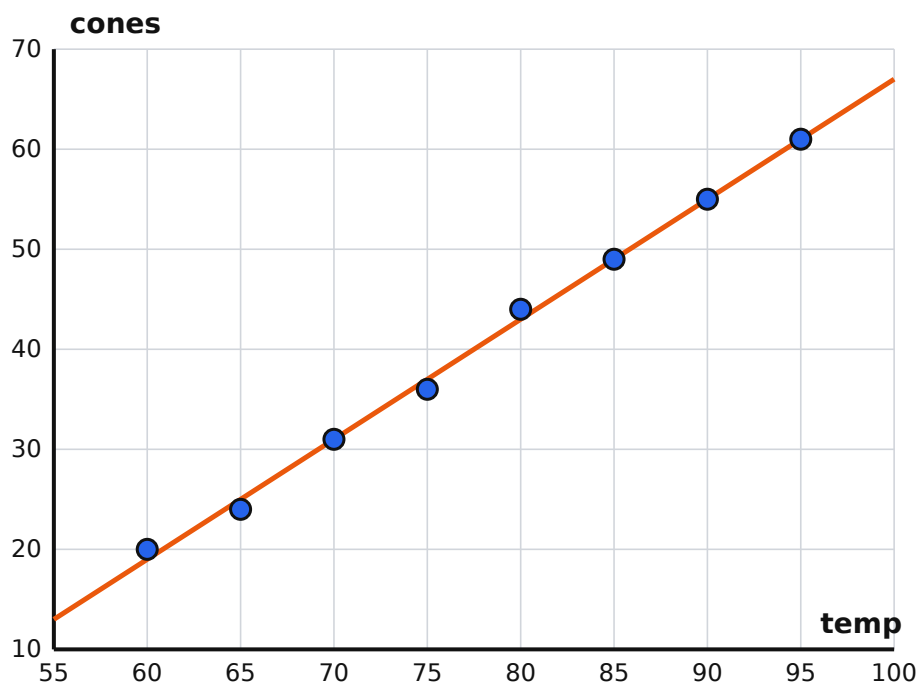
- A. 5
- B. 20
- C. 7.5
- D. 0.2

Question 7

Which statement is true about association?

- A. It always shows cause and effect
- B. It does not prove that one variable causes the other
- C. It requires a straight line
- D. It only exists for positive patterns

Question 8



Ice cream sales with a trend line.

What does the slope 1.2 of the trend line mean?

- A. 1.2 cones at 0°F
- B. 1.2°F per cone
- C. About 1.2 more cones per 1°F
- D. -53 cones at every temperature

Question 9

Points are spread out widely around a line. The association is

- A. weak
- B. strong
- C. negative
- D. perfect

Question 10

Which is the best trend line for points (1, 3), (2, 5), (3, 7), (4, 9)?

- A. $y = 2x + 3$

B. $y = x + 2$

C. $y = 3x$

D. $y = 2x + 1$

Answers

1. **B** – One variable rises while the other falls.
2. **A** – An outlier is far from the overall pattern.
3. **C** – The points rise in a nearly straight pattern.
4. **D** – The points follow a curve.
5. **B** – $2 \times 10 + 5 = 25$.
6. **A** – $(30 - 10)/(4 - 0) = 5$.
7. **B** – Two variables can be associated because of a third factor.
8. **C** – The slope is the change in cones for each degree.
9. **A** – Points far from the line mean a weak association.
10. **D** – Every point satisfies $y = 2x + 1$.

Remember

- Positive association: as x increases, y tends to increase.
- Negative association: as x increases, y tends to decrease.
- Clusters are groups of points; outliers are points far from the pattern.
- A linear association has points near a straight line; nonlinear follows a curve.
- A trend line has about as many points above as below and is close to the points.