22A-C2 | READ A SCATTER PLOT

Linear relationship and the correlation coefficient

Sept. 18: Compared slopes and y-intercepts. Sept. 21: Used two points to write y = mx + b.
Sept. 22: Used line equations for real situations. Today: Study the pattern of MANY (x, y) pairs.

Read and discuss Steps 1–3. Point to the plots below. Write your answers only in Step 4.

1 Read the direction

Look from left to right. As x increases, what tends to happen to y?

Rises overall: positive relationship.

Falls overall: negative relationship.

No clear straight-line trend: little or no linear relationship.

2 Judge the strength

The closer ALL points lie to one straight line, the stronger the linear relationship.

Perfect: EVERY point lies exactly on one rising or falling straight line.

Steeper does not mean stronger.
Negative does not mean weak.

3 Describe it with r

The correlation coefficient, r, describes the direction and strength of the pattern.

r is not slope m. Its value is from −1 to 1.

−1: perfect negative; 1: perfect positive

Near 0: little or no linear relationship

The closer r is to −1 or 1, the stronger the linear relationship. Do not calculate r.

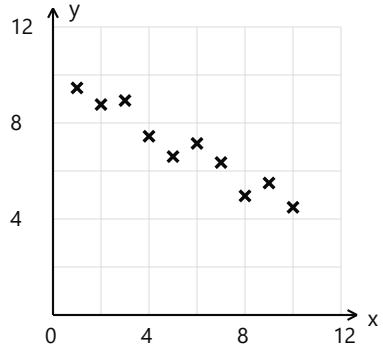


Figure 1

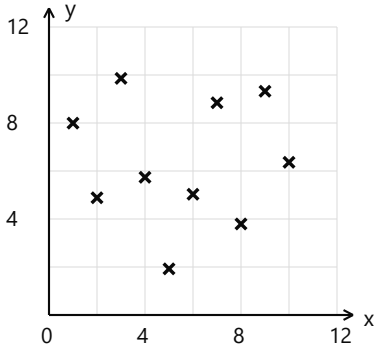


Figure 2

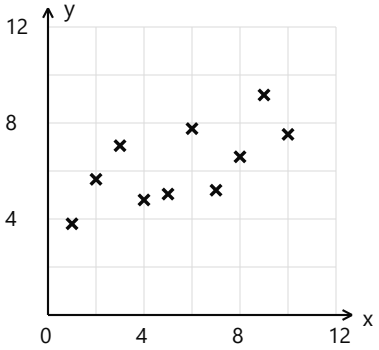


Figure 3

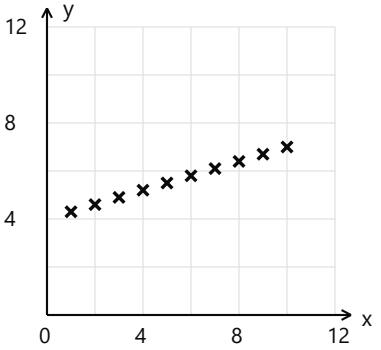


Figure 4

4 For each question, write a figure number (1–4). Write a reason on its "Why?" line.

A figure may be used again. "Strongest" alone includes both rising and falling patterns.

1. For which figure does r appear to equal 1? Figure _____

Why? _____

2. Which figure shows a positive, but not perfect, linear relationship? Figure _____

Why? _____

3. Which figure has the strongest linear relationship? Figure _____

Why? _____

TOPIC ID: **22A-C2**	TOPIC TITLE: Read a scatter plot		
NAME:		BLOCK:	DATE: 09/23/2026

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LEARNING PAPER EVIDENCE

22A-C2 | PRACTICE AND EXPLAIN

BACK • Show your thinking • v1.2

Practice A: For each question, write a figure number and a reason. Use the four plots below.

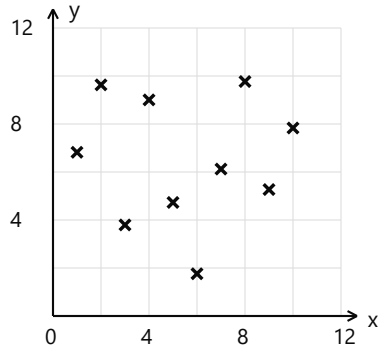


Figure 1

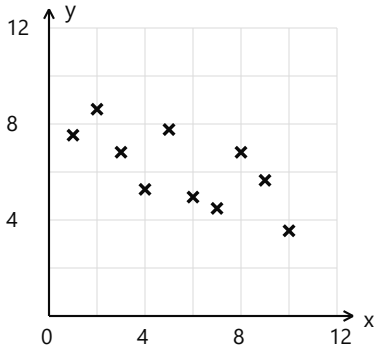


Figure 2

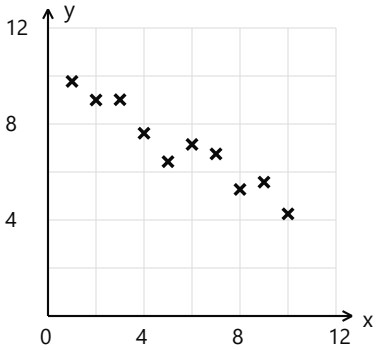


Figure 3

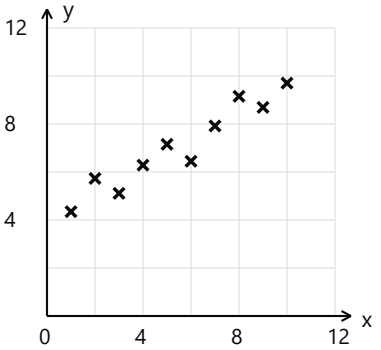


Figure 4

1. For which figure is r closest to −1? Figure _____

Explain: _____

2. Which figure has the strongest positive linear relationship? Figure _____

Explain: _____

3. For which figure is r closest to 0? Figure _____

Explain: _____

One independent problem: ALEKS or Studio B

Circle your source: ALEKS / Studio B

Use one row per question. Under "Look for," copy its key requirement (example: strongest negative).
Write a figure number (1–4). Under "Why," explain what its points show that supports your choice.
Write on paper before choosing on screen. Keep your first attempt visible when you correct it.

Q	Look for	Figure	Why does this figure fit?
1			
2			
3			

One last check: Imagine ice cream sales and air-conditioner use increase on the same days.
Does this prove that buying ice cream causes people to use their air conditioners? Explain.

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