Scatter graphs: fact sheet

Planner week 17 · Learn these facts

Positive



Both go up together

More sunshine, higher temperature

Negative



One goes up, the other goes down

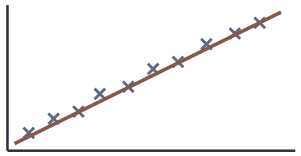
Older girls, faster times

No correlation



No pattern

Line of best fit



A ruler line through the middle

Points on both sides

Estimating

go up from the x value

to the line, then across

Read off your line of best fit

Outlier



A point that doesn't fit the pattern

Ignore it for the line

Be careful

only estimate inside

the data you have

Outside the range is unreliable

Correlation ≠ one causes the other

Describe it

Positive	as x goes up, y goes up
Negative	as x goes up, y goes down
None	no relationship

Key words

- **Correlation** the relationship between two things
- **Line of best fit** a straight line that follows the trend
- **Outlier** a point that does not fit the pattern
- **Estimate** read a value from the line

Exam tips

- Name the type: positive, negative or none.
- Describe in words using the labels: "as age increases, weight increases".
- Draw the line of best fit with a ruler, through the middle.
- It does not have to go through (0, 0).
- Show your lines on the graph when you estimate.
- Outlier: write its coordinates (x, y).

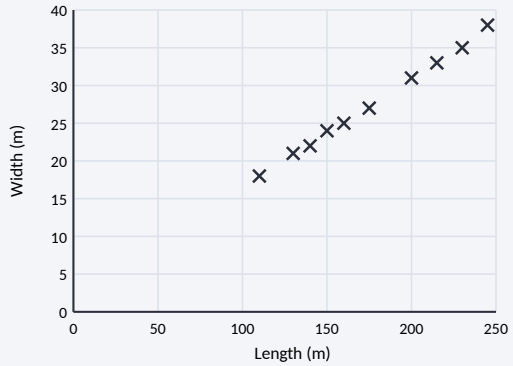
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Scatter graphs · Planner week 17 · Learn the method

Worked example

QUESTION

The scatter graph shows the lengths and widths of some ships.
(a) What type of correlation does the graph show? (b) Estimate the width of a ship that is 194 m long.



ANSWER

1. (a) As one goes up, the other goes up: positive correlation.
2. (b) Draw a line of best fit through the middle of the crosses.
3. Go up from 194 to the line, then across to read the width.

(a) Positive correlation (b) about 30 m

Use your line of best fit to estimate.

How to do it

1. Look at the pattern: up, down or none.
2. Name the correlation and say what it means in context.
3. Spot any outlier and leave it out.
4. Draw a line of best fit with a ruler.
5. Read across or up from the line to estimate.

Model answer:

(a) Positive correlation (b) about 30 m

Watch out

- Joining the dots instead of a line of best fit.
- Forcing the line through the corner.
- Estimating far outside the data.