

Solutions

Marking: **M1** a correct method, **A1** the correct answer.

Each answer shows the steps, then the **result**.

2.1

$$\frac{30}{90} \times 360^\circ = \mathbf{120^\circ}$$

2.2

- **positive** correlation

2.3

- to **predict** a value (read one variable from the other)

3.1

$$\frac{18}{72} \times 360^\circ = \mathbf{90^\circ}$$

3.2

$$\frac{120}{360} \times 90 = \frac{1}{3} \times 90 = \mathbf{30}$$

people

3.3

(a)

- each student is worth $\frac{360}{180} = 2^\circ$
- Maths **120°**, Science **90°**, English **100°**, Art **50°**

(b)

- 120° is $\frac{1}{3}$ of the students
- $\frac{1}{3} \times 300 = 100$ students
- that is more than 60, so **yes** — same angle, different totals

(c)

- strong **positive** correlation
- the line of best fit summarises the trend and lets a score be estimated

(d)

- 20 hours is outside the data range — this is **extrapolation**

- the pattern is not known to continue; scores cannot exceed 100, so the trend must flatten