

Big tournament statistics for IGCSE and GCSE: answers

IGCSE Math Revision · IGCSE and GCSE (Higher and Extended) · Teacher answers and notes

The starter is non-calculator. A calculator is allowed in the main activity.

Teacher notes

- Every number in this pack is made up for the lesson; say so when you show it.
- In task B, ask why a line of best fit through the mean point is a good choice.
- Task C (b): the expected number need not be a whole number.

Starter

1. **5**

- $25 \div 5 = 5$

2. **5.5**

- 1, 3, 4, 7, 8, 9: $(4 + 7) \div 2 = 5.5$

3. **14**

- $22 - 8 = 14$

4. **3**

- 3 appears most often.

Task A: Goals per match

a. **40 matches; 91 goals**

- $4 + 9 + 11 + 8 + 5 + 2 + 1 = 40$
- $0 \times 4 + 1 \times 9 + 2 \times 11 + 3 \times 8 + 4 \times 5 + 5 \times 2 + 6 \times 1 = 91$

b. **2.275**

- $91 \div 40 = 2.275$

c. **Median 2; mode 2**

- The median is halfway between the 20th and 21st values. The running totals are 4, 13, 24, ..., so both are 2.
- The most common number of goals is 2 (11 matches).

Task B: Shots and goals

a. **14.6 and 5**

- $146 \div 10 = 14.6$ and $50 \div 10 = 5$

b. **0.455**

- $(5 - 2) \div (14.6 - 8) = 3 \div 6.6 = 0.4545...$

c. **5.6 goals**

- $5 + 0.4545... \times (16 - 14.6) = 5.636...$

Task C: Chance

a. **2/5**

- $8 + 5 + 2 + 1 = 16$ matches; $16/40 = 2/5$

b. **25.6, so about 26**

- $64 \times 2/5 = 25.6$

c. **1/100**

- $P(0 \text{ goals}) = 4/40 = 1/10$, so $(1/10)^2 = 1/100$.

Extension

1. **29**

- $48 \times 2.5 = 120$ goals in all.
- $120 - 91 = 29$

2. **3.625**

- $29 \div 8 = 3.625$

Every question is original and every answer was recomputed by computer before publishing.