

Big tournament statistics for CBSE Class 10: answers

CBSE Math Revision · CBSE Class 10 · Teacher answers and notes

No calculator. Every answer works out exactly.

Teacher notes

- Every number in this pack is made up for the lesson; say so when you show it.
- Task B covers all three grouped-data formulas from the Statistics chapter; the step-deviation method keeps the arithmetic small.
- In task B (b), the common slip is using the cumulative frequency of the median class instead of the class before it.

Starter

1. **5**
 - $25 \div 5 = 5$
2. **5.5**
 - 1, 3, 4, 7, 8, 9: $(4 + 7)/2 = 5.5$
3. **3**
 - 3 occurs three times.
4. **1/6**
 - 6 doubles out of 36 outcomes.

Task A: Goals per match

- a. **2.275**
 - $\Sigma fx = 0 + 9 + 22 + 24 + 20 + 10 + 6 = 91$; $\Sigma f = 40$.
 - $91/40 = 2.275$
- b. **2**
 - $n = 40$: the 20th and 21st values. Cumulative frequencies 4, 13, 24, ... so both are 2.
- c. **2**
 - 2 goals has the highest frequency, 11.

Task B: Batting scores

- a. **51**
 - Class marks 10, 30, 50, 70, 90; take $a = 50$, $h = 20$, so $u = -2, -1, 0, 1, 2$.
 - $\Sigma fu = -10 - 8 + 0 + 10 + 10 = 2$; mean $= 50 + 20 \times 2/40 = 51$
- b. **$155/3 = 51 \frac{2}{3}$**
 - $n/2 = 20$. Cumulative frequencies 5, 13, 25, ..., so the median class is 40–60.
 - Median $= 40 + (20 - 13)/12 \times 20 = 40 + 35/3 = 155/3$
- c. **$160/3 = 53 \frac{1}{3}$; $155 \approx 53 \frac{1}{3} + 102 = 155 \frac{1}{3}$**
 - Modal class 40–60: mode $= 40 + (12 - 8)/(2 \times 12 - 8 - 10) \times 20 = 40 + 40/3 = 160/3$.
 - $3 \times 155/3 = 155$ and $160/3 + 2 \times 51 = 155 \frac{1}{3}$: very close.

Task C: Chance

a. **2/5**

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

b. **3/8**

- $10 + 5 = 15$; $15/40 = 3/8$

c. **1/10**

- $4/40 = 1/10$

Extension

1. **29**

- $48 \times 2.5 = 120$; $120 - 91 = 29$

2. **15**

- $\Sigma fx = 50 + 240 + 600 + 700 + 90f = 1590 + 90f$ and $\Sigma f = 35 + f$.
- $1590 + 90f = 58.8(35 + f) = 2058 + 58.8f$, so $31.2f = 468$ and $f = 15$.

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