ANSWER KEY · CLASS 04

Percentages & Ratios — Answer Key

Worked Solutions | DI Setup Walkthrough | Trap Notes

DATE	TOTAL MARKS	DURATION	MARKING	TARGET
_____	12	—	+1 / –0.25	≥ 9 / 12

HOW TO USE

Use the answer key with the worked solutions: re-attempt every question you got wrong before reading the explanation, then write a one-line note in the margin saying which step you missed (concept, computation, or careless trap).

NOTES

Section 1 — answer table at a glance. Section 2 — worked solutions in the same order as the paper. Q3 is flagged: the printed options do not match the stated product; see the worked solution for the method. Daggered (†) entries indicate a flagged item.

SECTION 1 · ANSWER TABLE

10 ITEMS · AT A GLANCE

Q	Correct	One-line note
Q1	Drill	(a) 424.05 (b) 250 (c) ≈ 940
Q2	A	125%
Q3	D†	162 (item flagged)
Q4	C	11 : 9
Q5	A	25%
Q6	D	23 : 25
Q7	A	77
Q8	B	46
Q9	A	120%
Q10	C	131

† Q3 is flagged for revision — printed options do not match the stated product.

SECTION 2 · WORKED SOLUTIONS

METHOD > ANSWER

Q1 — Warm-up Drill

(a) 62.5% = 5/8 → 5/8 × 450 = 281.25; 51% of 280 = 142.80; sum = **424.05**. (b) 55.55% ≈ 5/9 → 5/9 × 540 = 300; 12.5% = 1/8 → 1/8 × 400 = 50; 300 − 50 = **250**. (c) 14.28% ≈ 1/7 → 1/7 × 4900 = 700; 16.67% = 1/6 → 1/6 × 1440 = 240; sum = **940**. *Tip:* Lock these four percent → fraction equivalents — they collapse 30-second sums into 5-second sums.

Q2 — (A) 125%

Let A = 5x and B = 4x. A as a percentage of B = (5x ÷ 4x) × 100 =**125%**. *Trap:* 80% (option C) is B as a percentage of A — read the direction of the comparison carefully.

Q3 — (D) 162 — flagged

If the three numbers are 3k, 4k and 6k with product 1944, then $72k^3 = 1944$, giving $k^3 = 27$ and $k = 3$. The numbers are 9, 12 and 18 — none of which are in the printed options. The published key (D) 162 implies a different intended product. **Action:** teach the method (largest = 6k where $k = \sqrt[3]{(P/72)}$); flag the question for revision in the next edition.

Q4 — (C) 11 : 9

Let the numbers be x and y with $x > y$. $x + y = 40$, $x - y = 4 \rightarrow x = 22$, $y = 18$. Ratio 22 : 18 = **11 : 9**.

Q5 — (A) 25%

B's share : C's share = 3 : 4. B is less than C by $(4 - 3) \div 4 \times 100$ = **25%.** (The Rs. 7218 figure is a distractor — only the ratio matters.)

Passage Setup — Build the full population table first

Total = 800. Males = 54% × 800 = 432; Females = 368. **Females:** Australia = ¼ × 368 = 92; USA = 25% × 368 = 92; Mauritius = 92 ÷ 2 = 46; remaining = 138; Italy = ⅚ × 138 = 115; China = 23. **Males:** China = ¼ × 432 = 108; Italy = 100; Australia = 192 − 92 = 100; remaining = 124; Mauritius = ¾ × 124 = 93; USA = 31. **Country totals:** USA 123 · Italy 215 · China 131 · Australia 192 · Mauritius 139.

Q6 — (D) 23 : 25

Female USA = 92; Male Australia = 100. 92 : 100 = **23 : 25**.

Q7 — (A) 77

Male USA = 31; Male China = 108; Male Mauritius = 93. Average = $(31 + 108 + 93) \div 3 = 232 \div 3 \approx$ **77.33**, which rounds to **77**.

Q8 — (B) 46

Female China = 23; Female Mauritius = 46. Sum = 69. ⅔ × 69 = **46**.

Q9 — (A) 120%

Total Mauritius = 139; Female Italy = 115. $139 \div 115 \times 100 \approx$ **120.87% ≈ 120%.**

Q10 — (C) 131

Male China + Female China = 108 + 23 = **131**.