Review of your wrong questions — clear step-by-step explanations

You did well on some items — this review will help you fix the specific mistakes and build confidence. For each question below I will: - Restate the question in simple words - Show your answer vs the correct one - Explain why your answer was incorrect - Solve it step by step (with all intermediate steps shown)

Question 1 — Ratio 5 : 4 expressed as a percent

Restated: Convert the ratio $5:4$ to a percentage.

- Your answer: a) 12.5%
- Correct answer: d) 125%

Why your answer was incorrect: - You likely treated the ratio as if it were 5% of 4 or performed an incorrect decimal shift. The ratio $5:4$ means the fraction $\frac{5}{4}$, not $\frac{5}{100}$.

Step-by-step solution: 1. Ratio $5:4$ means the fraction $\frac{5}{4}$. 2. Convert the fraction to a percent by multiplying by 100%:

$$\frac{5}{4} \times 100\% = 1.25 \times 100\% = 125\%.$$

Final result: 125% (option d).

Question 9 — Solve: 40% of 1640 + ? = 35% of 980 + 150% of 850

Restated: Compute the unknown number that makes this equation true:

$$40\% \text{ of } 1640 + ? = 35\% \text{ of } 980 + 150\% \text{ of } 850.$$

- Your answer: a) 372
- Correct answer: c) 962

Why your answer was incorrect: - You probably computed one side incorrectly or forgot to subtract the left side from the right side to find the unknown. Let's compute each piece carefully.

Step-by-step solution: 1. Compute 40% of 1640:

$$40\% \text{ of } 1640 = 0.40 \times 1640 = 656.$$

2. Compute 35% of 980:

$$35\% \text{ of } 980 = 0.35 \times 980 = 343.$$

3. Compute 150% of 850:

$$150\% \text{ of } 850 = 1.50 \times 850 = 1275.$$

4. Sum the right-hand side:

$$343 + 1275 = 1618.$$

5. Solve for $?$:

$$656 + ? = 1618 \quad \Rightarrow \quad ? = 1618 - 656 = 962.$$

Final result: 962 (option c).

Question 4 — What is 15% of Rs. 34?

Restated: Find 15% of 34 rupees.

- Your answer: a) Rs. 3.40
- Correct answer: d) Rs. 5.10

Why your answer was incorrect: - You probably calculated 10% of 34 (which is Rs. 3.40) instead of 15%.

Step-by-step solution: 1. Convert percent to decimal: $15\% = 0.15$. 2. Multiply:

$$0.15 \times 34 = 5.10.$$

Final result: Rs. 5.10 (option d).

Question 18 — How many litres of pure acid in 8 L of a 20% solution?

Restated: If a solution is 20% acid, how many litres of acid are in 8 litres of that solution?

- Your answer: a) 1.4 L
- Correct answer: c) 1.6 L

Why your answer was incorrect: - You likely treated 20% as 0.18 or mis-multiplied. The correct conversion is $20\% = 0.20$.

Step-by-step solution: 1. 20% of 8 litres is 0.20×8.

$$0.20 \times 8 = 1.6.$$

Final result: 1.6 litres (option c).

Question 19 — Which fraction is the largest percentage?

Restated: Which of these fractions gives the largest percentage? - a) $\frac{384}{540}$
- b) $\frac{425}{500}$
- c) $\frac{570}{700}$
- d) $\frac{480}{660}$

- Your answer: a) $\frac{384}{540}$
- Correct answer: b) $\frac{425}{500}$

Why your answer was incorrect: - You chose option a without converting to comparable percentages. You need to compare numeric values (decimals or percents), not just numerators/denominators.

Step-by-step solution: Compute each as a decimal (or percent):

1. Option a:
$$\frac{384}{540} \approx 0.711111 \quad \Rightarrow \quad 71.111\%.$$
(Divide: $384 \div 540 = 0.711111\ldots$)
2. Option b:
$$\frac{425}{500} = 0.85 \quad \Rightarrow \quad 85\%.$$
3. Option c:
$$\frac{570}{700} = \frac{57}{70} \approx 0.8142857 \quad \Rightarrow \quad 81.4286\%.$$
4. Option d:
$$\frac{480}{660} = \frac{48}{66} = \frac{8}{11} \approx 0.7272727 \quad \Rightarrow \quad 72.7273\%.$$

Compare: 85% (option b) is the largest.

Final result: option b ($425/500$).

Question 20 — 5% of (25% of Rs.1600)

Restated: First find 25% of Rs.1600, then find 5% of that result.

- Your answer: a) Rs. 5
- Correct answer: c) Rs. 20

Why your answer was incorrect: - You probably multiplied wrongly or confused percent-of-percent. Remember two percentages multiply (5% of 25% = 0.05×0.25).

Step-by-step solution: 1. Calculate 25% of Rs. 1600:

$$0.25 \times 1600 = 400.$$

2. Now 5% of 400:

$$0.05 \times 400 = 20.$$

Alternative single-step:

$$5\% \text{ of } 25\% \text{ of } 1600 = (0.05 \times 0.25) \times 1600 = 0.0125 \times 1600 = 20.$$

Final result: Rs. 20 (option c).

Question 8 — 45% of 750 minus 25% of 480

Restated: Compute 45% of 750 then subtract 25% of 480.

- Your answer: a) 216
- Correct answer: b) 217.50

Why your answer was incorrect: - Small arithmetic slip: 45% of 750 is 337.50, not 336 or something close. Precise decimals matter.

Step-by-step solution: 1. 45% of 750:

$$0.45 \times 750 = 337.5.$$

2. 25% of 480:

$$0.25 \times 480 = 120.$$

3. Subtract:

$$337.5 - 120 = 217.5.$$

Final result: 217.50 (option b).

Question 7 — 860% of 50 + 50% of 860

Restated: Compute 860% of 50, then add 50% of 860.

- Your answer: a) 430
- Correct answer: c) 860

Why your answer was incorrect: - You calculated one part correctly (860% of 50 is 430) but forgot to add the second part (50% of 860), which is also 430. You must add both.

Step-by-step solution: 1. 860% of 50:

$$860\% = 8.60, \qquad 8.60 \times 50 = 430.$$

2. 50% of 860:

$$0.50 \times 860 = 430.$$

3. Add:

$$430 + 430 = 860.$$

Final result: 860 (option c).

Concept Primer — Percentages (quick and visual)

Percent means "per hundred." Use decimals or fractions to work with percentages.

- Convert percent to decimal:

$$x\% = \frac{x}{100} \quad \text{(so } 25\% = 0.25,\ 5\% = 0.05\text{)}.$$

- Percent of a number:

$$x\% \text{ of } N = \frac{x}{100} \times N.$$

  Example: 15% of $34 = 0.15 \times 34 = 5.1$.

- Percent of percent:

$$a\% \text{ of } (b\% \text{ of } N) = \left(\frac{a}{100}\right)\left(\frac{b}{100}\right) N.$$

  Example: 5% of 25% of $1600 = 0.05 \times 0.25 \times 1600 = 20$.

- Converting fraction or ratio to percent:
  - Fraction $\frac{p}{q}$ as percent: $\dfrac{p}{q} \times 100\%$.

- Ratio $a : b$ as percent (value of a relative to b): $\frac{a}{b} \times 100\%$. Example: $5 : 4 = \frac{5}{4} \times 100\% = 125\%$.

- Quick decimal moves:
  - To find $x\%$ of a number, move decimal two places left in x then multiply.
  - To convert percent to fraction: $x\% = \frac{x}{100}$.

- Comparing fractions as percentages:
  - Convert each fraction to a decimal or percent and compare. Don't compare numerators only.

Helpful mental shortcuts: - 25% = quarter = divide by 4 - 50% = half = divide by 2 - 10% = one-tenth = move decimal one place left - 5% = half of 10% - 1% = move decimal two places left

---

Next steps study plan (tailored to your diagnosis & recommendations)

You showed a good start — now we'll strengthen accuracy and application with focused practice.

1. Short daily practice (15–20 minutes) for 2 weeks:
   - Day 1–3: Basic percent conversions and percent-of-number problems (30 problems total).
   - Day 4–6: Percent-of-percent and combined percentage problems (25 problems).
   - Day 7–10: Word problems and mixture/solution percent problems (20 problems).
   - Day 11–14: Mixed review and timed quizzes (25 problems, 15 minutes).
2. Focus topics (repeat each until comfortable):
   - Converting ratio/fraction to percent (practice 10 examples).
   - Percent-of-percent problems (5–10 examples).
   - Applying percent to money and mixtures (real-life practice).
3. Use visual aids:
   - Make a small percent chart (0%, 1%, 5%, 10%, 25%, 50%, 100%) with decimal equivalents beside them.
   - Draw quick bar or pie sketches for mixture and fraction problems.
4. Accuracy tactics:
   - Always convert percent to decimal first, then multiply.
   - Write intermediate values (don't try to do everything mentally).

- Check by reversing: after computing a percent, try to compute the percent back to verify.

5. Spaced review:
    - After the two-week block, do a quick 10-question review every 3 days for two weeks to improve retention.
6. Practice sources:
    - Create your own problems from real life: discounts, taxes, mixture recipes.
    - Use short online quizzes (set timer to 10–15 minutes).

You're doing well — small careful steps and regular practice will quickly close the gaps. Keep practicing the specific procedures shown above, and always write intermediate steps to avoid small arithmetic slips. You can do this!