

Spot the mistake relay and maths taboo for IGCSE and GCSE: answers

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

A calculator is allowed.

Teacher notes

- Relay: teams of three. Give each team the first worked solution; when they bring you the mistake and the corrected answer, they get the next one. The first team through all six wins.
- Every slip here is one of the common mistakes on our [IGCSE Examiner Insights page](#), in a new example of our own. Show the page afterwards so students can see which mistakes cost the most marks.
- Taboo cards: one student describes the word without saying it or any of the banned words; their team guesses. The sample clue on each card shows that it can be done.
- Pictionary (no words or numbers allowed on the board, 60 seconds each): parallel, perpendicular, tangent, histogram, reflection, cuboid, bearing, sector.

Starter

1. **$11 - 2x$**

- $-2 \times -3 = +6$, so $5 - 2x + 6 = 11 - 2x$

2. **$5\sqrt{2}$**

- $\sqrt{8} = 2\sqrt{2}$ and $\sqrt{18} = 3\sqrt{2}$: simplify first, then add.

3. **3.6 hours**

- 36 minutes = $36/60 = 0.6$ hours

Task A: Relay, part 1

a. **£70**

- Mistake: 20% of the new price was taken. The 20% is of the original.
- Original $\times 1.2 = 84$, so the original = $84 \div 1.2 = £70$.

b. **£2315.25**

- Mistake: this is simple interest. Compound interest grows each year.
- $2000 \times 1.05^3 = £2315.25$

c. **1350 ml**

- Mistake: the length scale factor was used for volume.
- Volume scale factor $1.5^3 = 3.375$, so $400 \times 3.375 = 1350$ ml.

Task B: Relay, part 2

a. **0.09**

- Mistake: adding. For 'and' with independent events, multiply.
- $0.3 \times 0.3 = 0.09$

b. **5.9**

- Mistake: for the biggest difference, subtract the smallest b .
- $8.45 - 2.55 = 5.9$

c. $x = 3$

- Mistake: the bases are different, so the powers cannot be compared directly.
- $2^{2x} = 2^{3x-3}$, so $2x = 3x - 3$ and $x = 3$.

Task C: Maths taboo

a. **Sample clue: 'Add up all the sides of a shape.'**

- The word is perimeter. Any clue that avoids the banned words is fine.

b. **Sample clue: 'Numbers like 2, 3, 5, 7 and 11.'**

- The word is prime. Any clue that avoids the banned words is fine.

c. **Sample clue: 'How much y goes up when x goes up by 1 on a straight graph.'**

- The word is gradient. Any clue that avoids the banned words is fine.

d. **Sample clue: 'Put the data in a row from smallest to largest and pick the value halfway along.'**

- The word is median. Any clue that avoids the banned words is fine.

Extension

1. $10 - (x - 3)^2$

- Mistake: $-x^2 + 6x = -(x^2 - 6x)$, not $-(x^2 + 6x)$.
- $-[(x - 3)^2 - 9] + 1 = 10 - (x - 3)^2$, so $a = 10$ and $b = 3$.

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