

1) Tom works out 24×0.5 and gets an answer of 120.

- a) Estimate using 20×1 . Is Tom's answer sensible?
- b) Work out the correct answer and explain Tom's mistake.

2) Ella works out 36×0.4 and gets an answer of 144.

- a) Estimate using 40×0.5 . Is Ella's answer sensible?
- b) Work out the correct answer and explain Ella's mistake.

3) Ben works out 58×0.6 and gets an answer of 348.

- a) Estimate using 60×1 . Is Ben's answer sensible?
- b) Work out the correct answer and explain Ben's mistake.

4) Aisha works out 79×3.6 and gets an answer of 2844.

- a) Estimate using 80×4 . Is Aisha's answer sensible?
- b) Work out the correct answer and explain Aisha's mistake.

5) Liam works out 142×1.8 and gets an answer of 2556.

- a) Estimate using 140×2 . Is Liam's answer sensible?
- b) Work out the correct answer and explain Liam's mistake.

6) Noah works out 304×0.7 and gets an answer of 2128.

- a) Estimate using 300×1 . Is Noah's answer sensible?
- b) Work out the correct answer and explain Noah's mistake.

7) Maya works out 468×2.5 and gets an answer of 11700.

- a) Estimate using 500×3 . Is Maya's answer sensible?
- b) Work out the correct answer and explain Maya's mistake.

8) Oliver works out 96×0.08 and gets an answer of 768.

- a) Estimate using 100×0.1 . Is Oliver's answer sensible?
- b) Work out the correct answer and explain Oliver's mistake.

9) Priya works out 125×0.06 and gets an answer of 750.

- a) Estimate using 100×0.1 . Is Priya's answer sensible?
- b) Work out the correct answer and explain Priya's mistake.

10) Kieran works out 732×0.045 and gets an answer of 32940.

- a) Estimate using 700×0.05 . Is Kieran's answer sensible?
- b) Work out the correct answer and explain Kieran's mistake.

Solution 1

- Estimate: $20 \times 1 = 20$.
- 120 is much bigger than 20, so the answer is not sensible.
- Exact: $24 \times 0.5 = 24 \times (5/10)$.
- $24 \times 5 = 120$.
- $120 \div 10 = 12$.
- Correct answer: 12.
- Mistake: Tom did 24×5 but forgot to divide by 10.

Solution 2

- Estimate: $40 \times 0.5 = 20$.
- 144 is much bigger than 20, so the answer is not sensible.
- Exact: $36 \times 0.4 = 36 \times (4/10)$.
- $36 \times 4 = 144$.
- $144 \div 10 = 14.4$.
- Correct answer: 14.4.
- Mistake: Ella forgot to divide by 10.

Solution 3

- Estimate: $60 \times 1 = 60$.
- 348 is much bigger than 60, so the answer is not sensible.
- Exact: $58 \times 0.6 = 58 \times (6/10)$.
- $58 \times 6 = 348$.
- $348 \div 10 = 34.8$.
- Correct answer: 34.8.
- Mistake: Ben forgot to divide by 10.

Solution 4

- Estimate: $80 \times 4 = 320$.
- 2844 is much bigger than 320, so the answer is not sensible.
- Exact: $79 \times 3.6 = 79 \times (36/10)$.
- $79 \times 36 = 79 \times (30 + 6) = 2370 + 474 = 2844$.
- $2844 \div 10 = 284.4$.
- Correct answer: 284.4.
- Mistake: Aisha forgot to divide by 10.

Solution 5

- Estimate: $140 \times 2 = 280$.
- 2556 is much bigger than 280, so the answer is not sensible.
- Exact: $142 \times 1.8 = 142 \times (18/10)$.
- $142 \times 18 = 142 \times (20 - 2) = 2840 - 284 = 2556$.
- $2556 \div 10 = 255.6$.
- Correct answer: 255.6.
- Mistake: Liam forgot to divide by 10.

Solution 6

- Estimate: $300 \times 1 = 300$.
- 2128 is much bigger than 300, so the answer is not sensible.
- Exact: $304 \times 0.7 = 304 \times (7/10)$.
- $304 \times 7 = 2128$.
- $2128 \div 10 = 212.8$.
- Correct answer: 212.8.
- Mistake: Noah forgot to divide by 10.

Solution 7

- Estimate: $500 \times 3 = 1500$.
- 11700 is much bigger than 1500, so the answer is not sensible.
- Exact: $468 \times 2.5 = 468 \times (25/10)$.
- $468 \times 25 = 468 \times (100/4) = 46800 \div 4 = 11700$.
- $11700 \div 10 = 1170$.
- Correct answer: 1170.
- Mistake: Maya forgot to divide by 10.

Solution 8

- Estimate: $100 \times 0.1 = 10$.
- 768 is much bigger than 10, so the answer is not sensible.
- Exact: $96 \times 0.08 = 96 \times (8/100)$.
- $96 \times 8 = 768$.
- $768 \div 100 = 7.68$.
- Correct answer: 7.68.
- Mistake: Oliver forgot to divide by 100 (two decimal places).

Solution 9

- Estimate: $100 \times 0.1 = 10$.
- 750 is much bigger than 10, so the answer is not sensible.
- Exact: $125 \times 0.06 = 125 \times (6/100)$.
- $125 \times 6 = 750$.
- $750 \div 100 = 7.5$.
- Correct answer: 7.5.
- Mistake: Priya forgot to divide by 100 (two decimal places).

Solution 10

- Estimate: $700 \times 0.05 = 35$.
- 32940 is much bigger than 35, so the answer is not sensible.
- Exact: $732 \times 0.045 = 732 \times (45/1000)$.
- $732 \times 45 = 732 \times (40 + 5) = 29280 + 3660 = 32940$.
- $32940 \div 1000 = 32.94$.
- Correct answer: 32.94.
- Mistake: Kieran forgot to divide by 1000 (three decimal places).