Efficient calculation and estimation

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. Use compensation to calculate $497 + 358$. [2 marks]

$500 + 358 - 3 = 855$.

Answer: 855.

2. Calculate 25×28 by making a factor of 100. [2 marks]

$25 \times 4 \times 7 = 100 \times 7 = 700$.

Answer: 700.

3. Calculate $1,002 - 498$ efficiently. [2 marks]

$1,002 - 500 + 2 = 504$.

Answer: 504.

4. Estimate 61×39 using convenient tens. [1 mark]

$60 \times 40 = 2,400$.

Answer: About 2,400.

5. A calculator shows 7,200 for 48×15. Explain why this is unreasonable, then correct it. [3 marks]

50×15 is about 750. Exactly, $48 \times 10 + 48 \times 5 = 480 + 240 = 720$.

Answer: It is about ten times too large; the correct answer is 720.

6. A club has 178 people. Each bus seats 40. How many buses are needed? [2 marks]

Four seat 160, leaving 18 people, so one more is needed.

Answer: 5 buses.