Estimating decimal calculations

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

1. Estimate $28.75 + 9.9$ using whole numbers, then calculate it exactly. [2 marks]

$29 + 10 = 39.$

$28.75 + 9.90 = 38.65.$

Answer: Estimate 39; exact sum 38.65.

2. Estimate $12.04 - 3.87$, then calculate it exactly. [2 marks]

$12 - 4 = 8.$

$12.04 - 3.87 = 8.17.$

Answer: Estimate 8; exact answer 8.17.

3. Estimate the cost of 40 items at 2.99 dollars each. Then find the exact cost. [2 marks]

$3 \times 40 = 120.$

$2.99 \times 4 \times 10 = 11.96 \times 10 = 119.6.$

Answer: Estimate 120 dollars; exact cost 119.60 dollars.

4. Estimate $89.6 \div 20$, then calculate it exactly. [2 marks]

$90 \div 20 = 4.5$.

$89.6 \div 2 \div 10 = 44.8 \div 10 = 4.48$.

Answer: Estimate 4.5; exact answer 4.48.

5. A bottle holds 4.8 L. After 1.95 L is poured out, about how much remains? Then calculate the exact amount. [2 marks]

$5 - 2 = 3$ is a quick estimate.

$4.80 - 1.95 = 2.85$.

Answer: About 3 L; exactly 2.85 L.

6. A budget is 25 dollars. Two prices are 12.49 and 12.49 dollars. Is rounding both prices to 12 dollars enough to decide exactly how much money remains? Explain. [2 marks]

Rounding gives 24 dollars and would overstate the money left.

Answer: No. Calculate the exact total 24.98 dollars, leaving 0.02 dollars.