Repeated percentage change

6 questions | 14 marks

Equivalent correct methods earn the corresponding marks.

1. A 400-dollar price rises by 5%, then falls by 5%. Find the final price. [2 marks]

$400(1.05)(0.95) = 399$.

Answer: 399 dollars

2. Combine increases of 10% and 20%. [2 marks]

$1.1 \times 1.2 = 1.32$.

Answer: 32% increase

3. Combine decreases of 10% and 30%. [2 marks]

$0.9 \times 0.7 = 0.63$.

Answer: 37% decrease

4. A final price is 216 dollars after a 10% discount. Find the original price. [2 marks]

$\frac{216}{0.9} = 240$.

Answer: 240 dollars

5. What percentage increase reverses a 40% decrease? [3 marks]

The reverse factor $\frac{1}{0.6} = \frac{5}{3}$ exceeds 1 by $\frac{2}{3}$.

Answer: $66\frac{2}{3}\%$

6. An 800-dollar amount rises 20%, falls 25%, then rises 10%. Find the result and net change. [3 marks]

$800(1.2)(0.75)(1.1) = 792$; the combined factor is 0.99.

Answer: 792 dollars; 1% decrease.