Finding an original amount

6 questions | 14 marks

Equivalent correct methods earn the corresponding marks.

1. A price is 64 AUD after a 20% discount. Find the original price. [2 marks]

$64 \div 0.8 = 80$.

Check: $80 \times 0.8 = 64$.

Answer: 80 AUD

2. An amount becomes 117 after a 30% increase. Find its original value. [2 marks]

$117 \div 1.3 = 90$.

Check: $90 \times 1.3 = 117$.

Answer: 90

3. A ticket costs 42 AUD after a 30% reduction. Find its original price. [2 marks]

The remaining fraction is 0.7.

$42 \div 0.7 = 60$.

Answer: 60 AUD

4. A town population becomes 168 after a 40% increase. Find the original population. [2 marks]

$168 \div 1.4 = 120$.

Check: an increase of 48 is 40% of 120.

Answer: 120

5. A student says a sale price of 96 AUD after 20% off means the original was $96 - 19.20 = 76.80$ AUD. Explain the error and find the correct original price. [3 marks]

The sale price represents 80% of the original.

$96 \div 0.8 = 120$.

A discount must make the final price lower, so an original below 96 AUD is impossible.

Answer: The original is 120 AUD; the student applied a new discount rather than reversing it.

6. A jacket is discounted by 25%, then its reduced price is discounted by a further 10%. It finally costs 81 AUD. Find the original price. [3 marks]

The overall multiplier is $0.75 \times 0.9 = 0.675$.

$81 \div 0.675 = 120$.

Check: $120 \times 0.75 = 90$ and $90 \times 0.9 = 81$.

Answer: 120 AUD