Simple interest

6 questions | 16 marks

Equivalent correct methods earn the corresponding marks.

1. Find the interest and final amount for 1,200 dollars at 5% simple interest per year for 2 years. [3 marks]

$I = 1200(0.05)(2) = 120.$

$A = 1200 + 120 = 1320.$

Answer: Interest AUD 120.00; final AUD 1,320.00

2. Find simple interest on 500 dollars at 6% per year for 6 months. [2 marks]

$t = 0.5$ years.

$I = 500(0.06)(0.5) = 15.$

Answer: AUD 15.00

3. At 4% simple interest per year for 3 years, an investment earns 72 dollars interest. Find the principal. [3 marks]

$P = \frac{72}{0.04 \times 3} = 600.$

Answer: AUD 600.00

4. How many years does 400 dollars take to earn 80 dollars simple interest at 5% per year? [2 marks]

$t = \frac{80}{400 \times 0.05} = 4.$

Answer: 4 years

5. A 700-dollar principal earns 63 dollars simple interest in 18 months. Find the annual rate. [3 marks]

$t = 1.5.$

$r = \frac{63}{700 \times 1.5} = 0.06 = 6\%.$

Answer: 6% per year

6. Compare only the total interest: 800 dollars at 4% simple interest for 3 years, or at 5% for 2 years. [3 marks]

$800(0.04)(3) = 96$ and $800(0.05)(2) = 80.$

The terms differ, so this does not mean 4% is a higher annual rate.

Answer: The first earns AUD 96.00; the second AUD 80.00, so the first earns AUD 16.00 more.