# Tax/inflation effects on returns

6 questions | 12 marks

Equivalent correct methods earn the corresponding marks.

**1.** AUD 5000 earns 4% interest. Tax is 20% of the interest. Find tax and retained earnings. [2 marks]

$\text{Interest} = 200.$

$\text{Tax} = 40; \quad \text{retained} = 160.$

**Answer:** AUD 40 tax; AUD 160 retained

**2.** What after-tax rate results from 5% interest taxed at 30% of each interest credit? [2 marks]

$0.05 \times 0.70 = 0.035.$

**Answer:** 3.5%

**3.** A balance grows 7% while prices rise 4%. Find the exact real growth rate to 3 decimal places. [2 marks]

$\text{Real factor} = \frac{1.07}{1.04}.$

Subtract 1 and express as a percentage.

**Answer:** 2.885%

**4.** AUD 6000 in one year has prices 2% higher. Express it in current-year purchasing power. [2 marks]

$\frac{6000}{1.02}.$

**Answer:** AUD 5,882.35

**5.** An investment grows 3% after tax while inflation is 5%. Is purchasing power higher or lower? Quantify to 3 decimal places. [2 marks]

$\text{Real rate} = \frac{1.03}{1.05} - 1 < 0.$

**Answer:** Lower by 1.905%

**6.** Why does the formula not describe actual tax on every possible investment? [2 marks]

The problem supplies a simplified rule; the conclusion is limited to that model.

**Answer:** Tax rules differ across types of income, personal circumstances and timing.