Solutions

Marking: **K** knowledge, **App** use of the case or data, **An** analysis (a chain of reasons: cause, then effect), **Ev** evaluation (a judgement with a reason). In calculations, **M1** is for the method and **A1** for the answer; **B1** is an independent mark.

Each answer shows the steps, then the **result**.

2.1

$$\frac{10{,}000}{1.08^{3}}$$

$= £\mathbf{7{,}938}$

2.2

$6{,}000 \times 1.08^{2}$

$= £\mathbf{6{,}998}$

2.3

(a) $4{,}000 \times \dfrac{1 - 1.08^{-5}}{0.08} = £\mathbf{15{,}971}$

(b) $\dfrac{2{,}400}{0.08} = £\mathbf{30{,}000}$

2.4

$$\left(1 + \frac{0.12}{12}\right)^{12} - 1$$

$= \mathbf{12.68}\%$

3.1

(a) $\dfrac{12{,}000}{1.08^{4}} = £\mathbf{8{,}820}$

(b) $5{,}000 + \dfrac{5{,}000}{1.08^{2}} = £\mathbf{9{,}287}$

(c) plan B, by about £**467** today

(d) the pounds arrive at different dates; money received earlier can earn interest, so later pounds are worth less today

3.2

(a) $\dfrac{6\%}{12} = \mathbf{0.5}\%$

(b) $1.005^{12} - 1 = \mathbf{6.17}\%$

(c) $\dfrac{60{,}000 \times 0.005}{1 - 1.005^{-60}} = £\mathbf{1{,}160}$

3.3

(a) $\dfrac{2{,}400}{0.08} = £\mathbf{30{,}000}$; $\dfrac{2{,}400}{0.06} = £\mathbf{40{,}000}$

(b) **5–6**: at 8% renting costs £5,000 less in today's money; at 6% buying is £5,000 cheaper, so the answer turns on the rate (An); rents usually rise, which makes renting dearer than the flat figure (App); buying ties up £35,000 the business may need for working capital, while renting keeps it free to move (An); judgement with a reason, e.g. rent now while cash is short, with a long lease that caps rent rises, and review when the rate is clearer (Ev). **3–4**: one side analysed, or no judgement. **1–2**: relevant points.

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