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

after 2 years £30,000 is back; £10,000 is left

$2 + \dfrac{10{,}000}{15{,}000} = \mathbf{2.67}$ years

2.2

present values 13,889, 12,860, 11,907, 7,350

sum £46,006

NPV = £**6**,**006**: accept

2.3

$10 + \dfrac{4{,}133}{4{,}133 + 3{,}580} \times 10$

$\approx$ **15.4**% (accept 15–15.5%)

2.4

payback ignores cash after the payback date: Q is much better but scores the same

it ignores the timing and the time value of money inside the period

3.1

(a) 13,889; 12,860; 11,907; 7,350

(b) £**6**,**006** (accept £6,007)

(c) cumulative after year 3: −£1,344; $3 + \dfrac{1{,}344}{7{,}350} = \mathbf{3.18}$ years

(d) accept: NPV > 0, so the project earns more than the 8% the money could earn elsewhere

3.2

(a) IRR chooses the refit; NPV chooses the site

(b) the site: NPV measures the pounds of value added; IRR ignores size: a high rate on £5,000 adds less than a lower rate on £60,000

3.3

7–**8**: the rule rejects the site, which adds £27,420 of value (App); payback ignores every pound after year 2 and the timing within it (K); but with tight cash, quick payback lowers the risk of running out of money, and later flows are less certain (An); a 2-year cut-off is arbitrary, not linked to the cost of capital (An); recommendation with a condition, e.g. decide on NPV, and use payback (or discounted payback) only as a risk check, with a cash plan that shows the business can fund the gap (Ev). **4**–**6**: sound analysis with limited use of the data or a weak judgement. **1**–**3**: relevant points, mostly descriptive.

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