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

(a) risk: the odds are known from data

(b) uncertainty: no data give the odds yet

2.2

(a) $\dfrac{18{,}000}{1{,}500} = \mathbf{12.0}$ weeks

(b) cash left $18{,}000 - 4 \times 1{,}500 = £12{,}000$; $\dfrac{12{,}000}{1{,}800} = \mathbf{6.7}$ weeks

2.3

fees $6 \times 300 = £1{,}800$

$0.55 \times \text{takings} = 1{,}800$, so takings $= \dfrac{1{,}800}{0.55} = £\mathbf{3{,}273}$

2.4

who: commuters who leave home without breakfast; how now: a café, a shop, or nothing; why switch: speed and price at the platform

cheap test: count people passing at 7–8 a.m. and ask 50 of them, or sell 40 rolls from a box for one morning

3.1

5–6: three ordered steps, each cheap before costly (K); each with a number target, e.g. at least 150 passers-by an hour at 7–9 a.m.; average takings above £520 a weekend day; contract only if both targets are met (App); stop rules written before each step, e.g. below 100 an hour, stop (An); judgement on why the ladder protects the £15,600 commitment (650×24) (Ev). **3–4**: steps with some targets but weak stop rules. **1–2**: steps listed only.

3.2

(a) $4{,}400 \times 0.55 - 6 \times 350 = 2{,}420 - 2{,}100 = £\mathbf{320}$

(b) $\dfrac{1{,}100}{0.55} = £\mathbf{2{,}000}$ a week; stall $\dfrac{4{,}400}{6} = £733$ a weekend, so the shop would need about 2.7 times that every week

(c) not yet: weekends are busier than weekdays, so the evidence is far from £2,000 a week; test weekday trade next

3.3

(a) $\dfrac{30{,}000}{2{,}500} = \mathbf{12.0}$ weeks

(b) cash left $30{,}000 - 5 \times 2{,}500 = £\mathbf{17{,}500}$; runway $\dfrac{17{,}500}{2{,}800} = \mathbf{6.25}$ weeks

(c) **4**: 6.25 weeks is less than the 7 weeks still needed, even if the lease were signed today (App); going on risks running out of cash mid-build, which is the real failure (An); stop, or cut the burn to below $\dfrac{17{,}500}{7} = £2{,}500$ a week, and set a rule: no lease by week 6, stop with the cash left (Ev). **2–3**: correct comparison with a weak rule. **1**: a decision without the numbers.

exercises.lol exercises.com.cn