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

$PED = \dfrac{-2}{5} = -\mathbf{0.4}$; inelastic

2.2

$\%\Delta Q = \dfrac{-100}{450} = -22.2\%$; $\%\Delta P = \dfrac{0.50}{2.25} = 22.2\%$

$PED = -\mathbf{1.0}$, unit elastic

revenue $2.00 \times 500 = 1{,}000$ and $2.50 \times 400 = 1{,}000$: **no change**

2.3

(a) inferior good: demand falls as incomes rise

(b) normal good and a necessity: demand rises less than income

(c) complements: dearer milk lowers coffee demand

2.4

revenue **rises**

demand is inelastic: quantity falls by a smaller percentage than price rises

3.1

(a) $\dfrac{\Delta Q}{\Delta P} = -100$; at £4, $Q = 800$: $-100 \times \dfrac{4}{800} = -\mathbf{0.5}$; at £8, $Q = 400$: $-\mathbf{2.0}$

(b) revenue is highest where $PED = -1$: $P =$ £**6**, $Q = 600$; revenue £**3,600**

(c) the slope is constant, but $\dfrac{P}{Q}$ grows as price rises; so a £1 change is a smaller percentage of a high price, while the same 100 loaves is a larger percentage of a small quantity

3.2

(a) buyers' share $\dfrac{1.2}{1.2 + 0.4} = 0.75$; $0.75 \times 20 =$ **15**p per cake

(b) demand is inelastic, so sellers can pass the tax on without losing many sales(An); supply is more elastic, so sellers would cut output rather than absorb it; sales fall only a little, so the tax raises revenue but does little to cut sugar eaten (Ev)

3.3

(a) sourdough: Q falls 6% to 752; revenue $4.40 \times 752 =$ £3,309, up £**109**

croissants: Q falls 18% to 492; revenue $2.20 \times 492 =$ £1,082, down £**118**

(b) raise the sourdough price only; keep croissants at £2.00, where demand is elastic

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(c) festival customers may not behave like everyday customers; rivals may react, and a 10% change is large for an elasticity measured from small changes