Solutions

2.1

- $MR = 20 - Q/25$. Set $MR = MC$: $20 - Q/25 = 4$.
- $Q = 400$ copies, $P = 20 - 8 = £16$.
- Lerner $(16 - 4)/16 = 0.75$.
- $P = MC$ at $20 - Q/50 = 4$ gives $Q = 800$.
- Deadweight loss $\frac{1}{2}(16 - 4)(800 - 400) = £2{,}400$.

2.2

- Produce while $MC \leq 2.50$: the fourth worker's cups cost $60/30 = £2.00$ ✓, the fifth's $60/20 = £3.00$ × – sell **180 cups**.
- Revenue $2.50 \times 180 = £450$.
- Cost $240 + 150 = £390$.
- Profit **£60**.

2.3

- Long run: $P = ATC$ with $P > MC$ – the demand curve ends tangent to ATC.
- Price stays above MC because the loaf is differentiated: cutting price to MC would throw away the markup that variety costs.
- Entry competes the £1,160 economic profit to zero.
- What survives is the markup that pays for standing out.

2.4

- If the other charges £4: £5 earns $60 < 100$, so reply £4.
- If the other charges £5: £5 earns $140 < 170$, so reply £4 again.
- £4 dominates; the equilibrium is **(£4, £4) at (£100, £100)**.
- Both would prefer (£5, £5) at (£140, £140), but independent pricing cannot reach it: each is tempted to undercut.
- That is the prisoners' dilemma shape of oligopoly.

2.5

- (a) perfect competition.
- (b) monopoly; (c) oligopoly; (d) monopolistic competition.

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