Solutions

2.1

- $CM = 3.20 - 1.40 = £1.80$.
- Ratio $= 1.80/3.20 = 56.25\%$.
- Break-even $= 2{,}250/1.80 = 1{,}250$ cups.
- $= £4{,}000$ of sales.

2.2

- £1,800: $(2{,}250 + 1{,}800)/1.80 = 2{,}250$ cups.
- £1,500 after tax: pre-tax $1{,}500/0.75 = £2{,}000$.
- $q = (2{,}250 + 2{,}000)/1.80 = 2{,}361$ cups.

2.3

- $MoS = (2{,}000 - 1{,}250)/2{,}000 = 37.5\%$.
- Leverage $= (1.80 \times 2{,}000)/(1.80 \times 2{,}000 - 2{,}250) = 3{,}600/1{,}350 = 2.67$.

2.4

- Bundle (2 cups + 1 muffin): $2 \times 1.80 + 1.10 = £4.70$.
- Per "customer unit": £4.70.
- Bundle break-even $= 2{,}250/4.70 = 479$ customer units (958 cups + 479 muffins).

2.5

- New CM $= 3.04 - 1.40 = £1.64$; break-even $= 2{,}250/1.64 = 1{,}372$ cups, up 10%.
- The price cut hits the WHOLE margin; the cost rise hits only the variable share – margin changes are always bigger than their percentages suggest.

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