

CVP – QUESTION TWO ANSWER

(a) New Selling Price Calculation

1. Current Contribution:

- Selling Price = £30.00
 - Variable Costs:
 - Direct Materials = £9.50
 - Direct Labour = £10.50
 - Other Direct Costs = £1.00
 - Variable Overheads = £0.80
- ➡ Total Variable Cost = £9.50 + £10.50 + £1.00 + £0.80 = **£21.80**

➡ Contribution per unit = £30.00 – £21.80 = **£8.20** ✓

2. Profit Calculation:

- Total Contribution = £8.20 × 19,000 = **£155,800** ✓
- Profit = Total Contribution – Fixed Costs

$$155,800 - 38,000 = 117,800$$

✓ Profit = **£117,800**

3. New Costs After Increase:

Direct Materials: £9.50 × 20% = £1.90 → £9.50 + £1.90 = **£11.40** ✓

Direct Labour: £10.50 × 18.88% = £1.98 → £10.50 + £1.98 = **£12.48** ✓

Other Direct Costs: £1.00 × 58% = £0.58 → £1.00 + £0.58 = **£1.58** ✓

Variable Overheads: £0.80 × 27% = £0.216 → £0.80 + £0.216 = **£1.01** ✓

➡ New Total Variable Cost = £11.40 + £12.48 + £1.58 + £1.01 = **£26.47** ✓

New Fixed Costs: £38,000 × 6% = £2,280 → £38,000 + £2,280 = **£40,280** ✓

4. New Selling Price:

To keep the same profit (£117,800):

$$\frac{40,280 + 117,800}{19,000} + 26.47$$

= £30.59 ✓

→ New Selling Price = £30.59 ✓

(b) Units Needed to Maintain Profit at Old Price

Contribution per unit at old price = £30.00 – £26.47 = £3.53 ✓

To maintain £117,800 profit:

$$\frac{40,280 + 117,800}{3.53} \approx 44,929 \text{ units}$$

✓ Units required = 44,929

(c) Effect of Price Increase on Sales

- If the price increases by more than 17.5%, sales drop by 2% for every extra 1%.

Example:

- 20% increase → 20% – 17.5% = 2.5%
 - 2.5% × 2% = 5% drop
 - 5% of 19,000 = 950 units
 - New sales volume = 19,000 – 950 = 18,050 units ✓
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✓ Summary:

- New Selling Price = £30.59
- Units to maintain profit = 44,929
- Sales drop by 2% for every 1% price increase above 17.5%