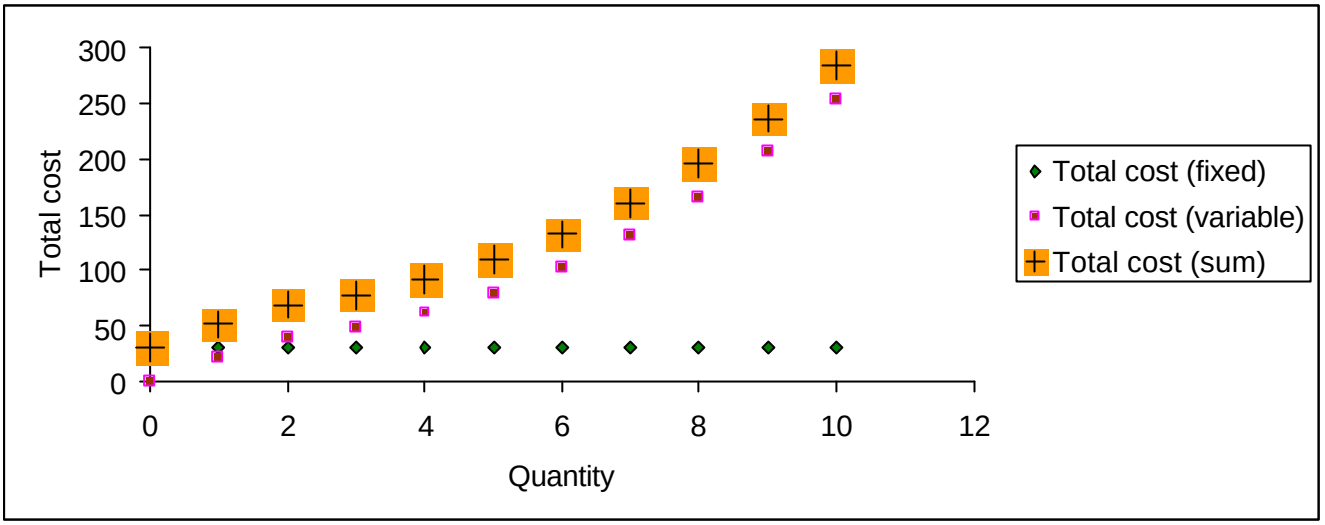
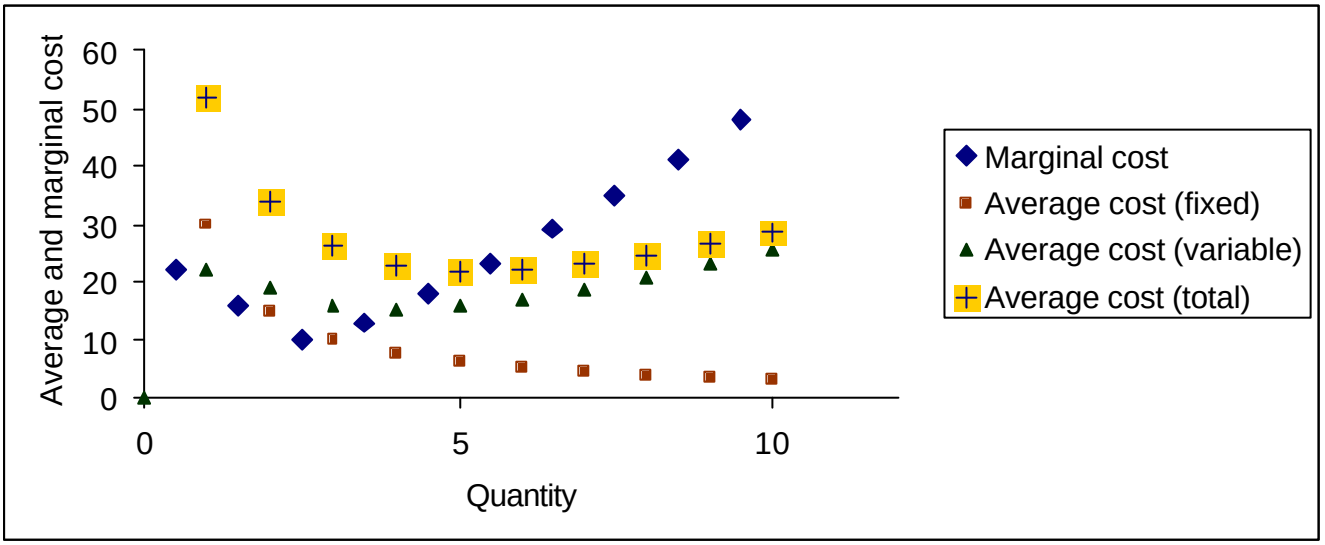
Costs

1 Costs, graphically





2 The same costs, in a table

Quantity	Total cost (c)			Marginal c	Average c		
	fixed	variable	sum	(at .5)	fixed	variable	total
0	30	0	30	0		0	
1	30	22	52	22	30.0	22.0	52.0
2	30	38	68	16	15.0	19.0	34.0
3	30	48	78	10	10.0	16.0	26.0
4	30	61	91	13	7.5	15.3	22.8
5	30	79	109	18	6.0	15.8	21.8
6	30	102	132	23	5.0	17.0	22.0
7	30	131	161	29	4.3	18.7	23.0
8	30	166	196	35	3.8	20.8	24.5
9	30	207	237	41	3.3	23.0	26.3
10	30	255	285	48	3.0	25.5	28.5

3 Cost terms

31 Total, average and marginal cost

- **Total cost** is the sum of fixed and variable cost.
- **Average cost** = $\frac{\text{Total cost}}{\text{Quantity}}$
- **Marginal cost** = $\frac{\text{Change in total cost}}{\text{Change in quantity}}$

32 Fixed and variable cost

- **Total fixed cost** is independent of quantity. It is constant.
- **Average fixed cost** = $\frac{\text{Total fixed cost}}{\text{Quantity}}$
  It is falling if the quantity rises.
- **Total variable cost** is dependent on quantity.
- **Average variable cost** = $\frac{\text{Total variable cost}}{\text{Quantity}}$

33 Relationship between average and marginal cost curves

- If the average cost curve is falling (rising), the marginal cost curve lies below (above) the average cost curve.
- If the average cost curve is U-shaped, the marginal cost curve cuts the average cost curve from below and at the minimum point.