

A1. IT design

An IT consultancy is considering whether to complete a contract to design some software. It has already incurred, but not paid £45,000 for project management. If it completes the contract, it will earn £100,000 in revenue. However, if it does not continue, it could sell hardware equipment for £5,000 which originally cost £30,000 and has accumulated depreciation of £22,000. If it completes the contract, it anticipates that this equipment will have no resale value. It employs IT consultants who will work on the project who are permanent employees and currently do not have any other work. It would charge their time to the project at £50 per hour and estimate that the project will take 60 hours. It will also have to take on short term clerical staff to meet the deadline which will cost £15,000. Stationery costs are expected to be £8,000. If it continues with the contract, it will not be able to rent out the office space for £40,000.

1. What type of costs are the project management fees?

- A Sunk
- B Relevant
- C Committed
- D Opportunity

2. What relevant costs related to equipment should be taken into account?

- A £30,000
- B £22,000
- C £8,000
- D £5,000

3. What are the staff-related relevant costs?

- A £3,000
- B £18,000
- C £15,000
- D None

4. What type of cost is the rent of the office space?

- A Sunk
- B Committed
- C Opportunity
- D Non-relevant

5. What is the total net relevant costs and revenues?

- A £72,000
- B £40,000
- C £32,000
- D £29,000

A2 . Office bags

A company makes four types of leather bags and is considering whether it might be cheaper to buy them in rather than make all the bags themselves. The management accountant has obtained the following information:

| | Briefcase | Handbag | Laptop case | Satchel |
|--------------------------------------|-----------|-----------|-------------|---------|
| Direct materials £ | 40 | 50 | 20 | 40 |
| Direct labour £ | 24 | 23 | 12 | 28 |
| Variable production overhead £ | 12 | 14 | 16 | 12 |
| Total fixed overhead £ | 400,000 | 1,600,000 | 1,200,000 | 800,000 |
| Bought-in cost per item £ | 98 | 95 | 45 | 75 |
| Production volumes – number of items | 20,000 | 80,000 | 60,000 | 40,000 |

1. What is the total unit variable cost of each product in £s?

| | Briefcase | Handbag | Laptop case | Satchel |
|---|-----------|---------|-------------|---------|
| A | 96 | 107 | 68 | 110 |
| B | 40 | 50 | 20 | 40 |
| C | 76 | 87 | 48 | 80 |
| D | 84 | 93 | 52 | 88 |

2. What is the total variable cost of each product in £s?

| | Briefcase | Handbag | Laptop case | Satchel |
|---|-----------|-----------|-------------|-----------|
| A | 1,920,000 | 8,560,000 | 4,080,000 | 4,000,000 |
| B | 1,280,000 | 5,840,000 | 1,920,000 | 2,720,000 |
| C | 1,520,000 | 6,960,000 | 2,880,000 | 3,200,000 |
| D | 1,680,000 | 7,440,000 | 3,120,000 | 3,520,000 |

3. What is the fully absorbed cost per unit in £s?

| | Briefcase | Handbag | Laptop case | Satchel |
|---|-----------|---------|-------------|---------|
| A | 98 | 95 | 45 | 75 |
| B | 96 | 107 | 68 | 100 |
| C | 20 | 20 | 20 | 20 |
| D | 32 | 34 | 36 | 32 |

4. What is the total cost of buying in each of the bags?

| | Briefcase | Handbag | Laptop case | Satchel |
|---|-----------|-----------|-------------|-----------|
| A | 2,360,000 | 9,200,000 | 3,900,000 | 3,800,000 |
| B | 1,960,000 | 7,600,000 | 2,700,000 | 3,000,000 |
| C | 2,200,000 | 8,720,000 | 3,660,000 | 3,480,000 |
| D | 1,520,000 | 6,960,000 | 2,880,000 | 3,200,000 |

5. What products should be made or bought in?

| | Briefcase | Handbag | Laptop case | Satchel |
|---|-----------|---------|-------------|---------|
| A | Make | Buy | Make | Buy |
| B | Make | Make | Buy | Make |
| C | Make | Buy | Buy | Buy |
| D | Make | Make | Buy | Buy |

A3. Digdeep

Digdeep sells gardening tools but has a limited supply of materials to make the spades, forks, and hoes. The management accountant has been asked which products should take priority, given a total availability of 2,600 kg of raw material. She has also been given the following information, including the raw material cost of £2 per kg.

| | Spade | Fork | Hoe |
|---------------------------|-------|------|-----|
| Selling price £ | 30 | 35 | 40 |
| Materials £ | 10 | 4 | 8 |
| Labour £ | 5 | 5 | 6 |
| Variable overhead £ | 3 | 3 | 2 |
| Fixed Overhead per item £ | 4 | 4 | 3 |
| Total annual demand | 300 | 200 | 400 |

1. What is the unit contribution per product?

| | Spade | Fork | Hoe |
|---|-------|------|-----|
| A | 8 | 19 | 21 |
| B | 20 | 31 | 32 |
| C | 15 | 26 | 26 |
| D | 12 | 23 | 24 |

2. How much of the limited resource is required of each product in kg?

| | Spade | Fork | Hoe |
|---|-------|------|-----|
| A | 5 | 2 | 4 |
| B | 10 | 4 | 8 |
| C | 5 | 5 | 6 |
| D | 3 | 3 | 2 |

3. What is the contribution per limited resource?

| | Spade | Fork | Hoe |
|---|-------|------|-----|
| A | 2 | 2 | 2 |
| B | 12 | 23 | 24 |
| C | 2.4 | 11.5 | 6 |
| D | 8 | 19 | 21 |

4. In which order of priority should the garden tools be made?

| | Spade | Fork | Hoe |
|---|-------|------|-----|
| A | 1 | 2 | 3 |
| B | 3 | 1 | 2 |
| C | 2 | 1 | 3 |
| D | 3 | 2 | 1 |

5. How many of each product should be made?

| | Spade | Fork | Hoe |
|---|-------|------|------|
| A | 120 | 400 | 1600 |
| B | 120 | 200 | 400 |
| C | 300 | 200 | 175 |
| D | 400 | 200 | 1600 |

A4. Yoga

Becky runs yoga classes in different locations. She rents a room in each location as a gym where her classes are held. It is run centrally by the manager of her chain of gyms, but she is now viewing the profitability of each location. She allocates centrally incurred costs, such as the chain manager's salary on sales revenue. Other costs such as rent and gym staff costs are incurred by each location.

| Yoga: revenue and running cost data | | | |
|--|-----------------|-------------|------------|
| | Brighton | Hove | Rye |
| | £ | £ | £ |
| Sales revenue | 50,275 | 43,285 | 31,440 |
| Rent of gym | 25,400 | 13,250 | 5,320 |
| Gym staff | 12,400 | 8,200 | 15,000 |
| Chain Manager | 16,088 | 13,851 | 10,061 |

REQUIRED:

Using the information above, calculate the contribution of each gym and recommend which location should be closed.

A5. Waymark

Waymark is a company which makes road signs. It has agreed to supply road signs and, as the company is very busy with other work, it has to decide whether to continue with the contract. The contract is worth £3,000 but the following information needs to be considered:

- Paint – already in stock, purchased for £600. This type of paint could be bought at a current price of £650 and could be used for other road signs.
- Metal – purchased for £400 but already cut into the right size for road signs. It could be sold to other manufacturers for £250.
- Poles – these were purchased for £225 and made especially for this contract. They would have no resale value or other use.
- Labour – as the company is operating at capacity, they would need to recruit temporary labour, costing £15 per hour for an estimated 50 hours.
- If they continue with this contract, they will have to refuse another contract which would make a contribution of £900.
- Management charge – every contract is charged with 15% of its contract revenues to cover management costs.

REQUIRED:

Advise Waymark on whether or not they should complete the contract.

A6. MyCup

A company sells personalised crockery with names being painted on cups, bowls, and plates by hand. However, MyCup is experiencing a shortage of skilled labour with only 2,400 hours available. The management accountant has been asked to which products should take priority. Fixed overheads are recovered on a direct labour rate of £3 per direct labour hour. She has also been given the following information:

| £ | Cup | Bowl | Plate |
|----------------------------|-----|------|-------|
| Selling price | 76 | 80 | 56 |
| Materials | 16 | 15 | 10 |
| Labour | 24 | 24 | 18 |
| Variable overhead | 12 | 12 | 8 |
| Fixed overhead | 12 | 12 | 9 |
| | | | |
| Demand in numbers of items | 300 | 200 | 400 |

REQUIRED:

Calculate how many bowls, cups and plates should be made, to maximise the profit for the company.

A7. Whitewells

Whitewells are a chain of university bookshops with three shops in Oxford, Cambridge, and London with a separate Head Office. The management accountant is reviewing the profitability of each shop. The rent and staff costs incurred by each shop and can be saved in the event of closure. Marketing costs are allocated to each shop but would not be saved, if any shop were to close. Head office cost is charged at a rate of 5% of sales revenue.

| Bookshops: revenue and cost data | | | |
|---|---------------|------------------|---------------|
| | Oxford | Cambridge | London |
| | £000 | £000 | £000 |
| Sales revenue | 440 | 400 | 700 |
| Costs of goods sold | 330 | 300 | 525 |
| Rent of shop | 10 | 20 | 15 |
| Shop staff salaries | 75 | 85 | 90 |
| Marketing | 8 | 15 | 10 |

REQUIRED:

Assess which, if any, shops should be closed.

A8. How do relevant, marginal, and variable costs differ and in what circumstances is it appropriate to use them?

Carey & Knowles: Accounting - A Smart Approach
Chapter 14 – Short-term Decision Making
Practice questions
