STUDENT WORKSHEET

WORKSHEET ON COSTS, PROFITS & REVENUES

**Key Terms**

* **Fixed costs** are costs that do not alter when the business alters its level of output. Examples include rent & rates.
* **Variable costs** alter directly with the business’s level of output, for example fuel costs.
* **Direct costs** can be attributed to the production of a particular product and vary directly with the level of output. Examples include the costs of raw materials.
* **Total costs** are fixed and variable costs added together.
* **Indirect costs** cannot be allocated to the production of a particular product and relate to the business as a whole. Indirect costs are sometimes termed overheads and include the costs of marketing and administration.
* **Profit,** in its simplest sense,is the surplus of revenues over costs.
* **Revenues** are the earnings or income generated by a firm as a result of its trading activities.

**COSTS**

The cost of making any product is made up of two parts:

* fixed costs and
* variable costs.

Give three examples of fixed costs and three examples of variable costs.

Some costs contain fixed and variable elements. List two examples of such costs.

**Calculating average costs**

The Loddon Bicycle Company has fixed costs of £100 000 and each bicycle has variable costs of £50 for materials and labour. At maximum output the company can manufacture 8 000 bicycles a year

Calculate the average cost of producing a single bicycle at each of the levels of output below:

## (a) The company produces 1 000 bicycles during the year.

(b) The company produces 5 000 bicycles during the year.

(c) Explain the advantages to the company of producing on a larger scale.

**Calculating total costs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Level of Production (Thousand computers)** | **Fixed Costs**  **(£ million)** | **Variable Costs**  **(£ million)** | **Total Costs**  **(£ million)** |
| 0 |  |  | 5 |
| 10 |  |  | 10 |
| 20 |  |  | 15 |
| 30 |  |  | 20 |
| 40 |  |  | 25 |
| 50 |  |  | 30 |
| 60 |  |  | 35 |
| 70 |  |  | 40 |

|  |
| --- |
| **Tasks**  (a) Complete the table above.  (b) Calculate the average cost of producing at  10 000 units,  30 000 units and  60 000 units per annum?  (c) Explain why the level of average costs changes as output rises. |

**REVENUES**

A business’s revenue is its income or earnings over a period of time. You may also encounter the term ‘sales revenue’ which has the same meaning. Businesses calculate the revenue from the sale of a single product and from its entire product range. In either case the calculation is the same.

Revenue = Quantity Sold x Average Selling Price

**Case study: Warwick Royal Pottery**

Warwick Royal Pottery sells a hand painted plate called ‘*Town Views*’ showing some scenes from the town of Warwick. The company has decided to increase the price of its plates from £20 to £22. The table below shows the impact upon the company’s sales and revenue.

|  |  |  |
| --- | --- | --- |
| **Selling Price** | **Quantity Sold** | **Revenue** |
| £20 | 5 500 |  |
| £22 | 4 500 |  |

**Tasks**

(a) Calculate the revenues for the company at the two prices.

(b) Why might the sales revenue have changed in this way?

**Exercise**

Last year the Scroby Sands T-shirt company sold 20 000 T-shirts at an average price of £11. This year it increased its price to £12. As a result sales fell by 5%. Calculate the effect on this company’s revenue of this increase in prices.

**PROFITS**

A business makes a profit when over a period of time its revenue exceeds it total costs of production. The formula necessary to calculate profit is set out below.

Profit = Revenue – Total Costs.

Distinguish between the following

(a) Distributed profits

(b) Undistributed profits

**Case study**

**Bank profits to hit record**

Britain’s banks are set to announce record profits of £10 billion earned over the last six months, leading to claims that customers are being overcharged. It is anticipated that profits for the banks over the full year will be £22 billion. If this forecast is proved correct, it means that bank profits will have doubled over the past five years.

Banks claim that the rise in profits is not the result of exploiting customers but the result of cutting the costs of running their organisations.

**Question** The extract above suggests that UK banks are earning a high profit margin on their services. Why doesn’t one of the main UK banks reduce the cost of its services in the hope of winning many new customers?

**REVISION QUESTIONS**

1. Identify **three** costs that might have to be paid when a business is first established.
2. For each of the costs listed here state whether they are fixed or variable: wages paid to shop-floor labour, business rates, a three-year lease on a photocopier, supplies of gas, the salary of maintenance staff, the business’s annual payment to a local charity.
3. Carefully what is meant by the term ‘semi-variable cost’?
4. When drawing a graph to show a business’s variable costs it is usually drawn as a straight line. Explain why, in reality, this might not be the case.

1. A manager notes the following cost information relating to her business

|  |  |
| --- | --- |
| **Level of Production (000s)** | **Total Costs (£m)** |
| 0 | 20 |
| 25 | 50 |
| 50 | 75 |

For this business:

1. What are its fixed costs?
2. What is its average cost of production at 25 000 and 50 000 units?
3. Explain why the costs associated with a business’s delivery vehicle might be classified as semi-variable.
4. Explain why a firm’s revenue is unlikely to rise by 10% if it increases all its prices by the same percentage.
5. Outline **two** factors that may determine the effect on a firm’s revenue of an increase in their prices.
6. What is a ‘profit margin’? State **two** other factors that may determine the amount of profit a firm makes.
7. Explain **two** reasons why a business might not aim to earn the highest possible profits.

**THE COSTS OF PRODUCTION**

|  |  |  |  |
| --- | --- | --- | --- |
| **Level of Production (Thousands of computers)** | **Fixed Costs**  **(£ Million)** | **Variable Costs**  **(£ Million)** | **Total Costs**  **(£ Million)** |
| 0 | 5 | 0 | 5 |
| 10 | 5 | 5 | 10 |
| 20 | 5 | 10 | 15 |
| 30 | 5 | 15 | 20 |
| 40 | 5 | 20 | 25 |
| 50 | 5 | 25 | 30 |
| 60 | 5 | 30 | 35 |
| 70 | 5 | 35 | 40 |

**TASK**

On a graph draw curves representing fixed, variable and total costs. The x-axis should be labelled “level of production” and the y-axis “costs”.