

1. Match the terms and concepts in the table with their correct definitions, descriptions and/or formulas.

A Total revenue – total cost

B The average product per unit of labour per period of time, i.e. total output / total units of labour

C Price per unit × number of units sold

D The sum of total fixed costs and total variable costs for a given level of output

E Industries that extract or produce natural resources, including farming and mining

F Total cost / total output

G Replacing one factor of production in a production process with another, e.g. using machines to complete tasks previously undertaken by labour

H Total revenue / number of units sold

I A group of firms specializing in similar goods and services, or using similar production processes

J The cost per unit of output produced. Cost per unit tends to fall as output is increased because fixed costs remain unchanged

K Profit plus wages. It is the difference between the price at which an output is sold and the cost of the natural and man-made resources used to produce that output

L Manufacturing and construction industries

M A reward for enterprise and risk taking in business. It is a surplus of revenue in a firm over its costs of production

N Total output × variable cost per unit

O Turning unprocessed natural resources and other unfinished components and materials into other goods

Key term or concept	Definition and/or formula
Value added	K
Industry	I
Manufacturing	O
Primary industries	E
Secondary industries	L
Tertiary industries	Q
Profit	A, M
Productivity	S
Average labour productivity	B
Division of labour	T
Factor substitution	G
Fixed costs	R
Total variable cost	N, P
Total cost	D
Total revenue	C
Average revenue	H
Average cost	F, J

P The sum of costs that vary directly with the amount produced, such as the cost of materials and components

Q Industries that provide services

R Costs, such as insurance premiums and telephone line rental, which do not vary with output

S A measure of the amount of output that can be produced per unit of input. It is therefore a measure of how efficiently resources are being used in production

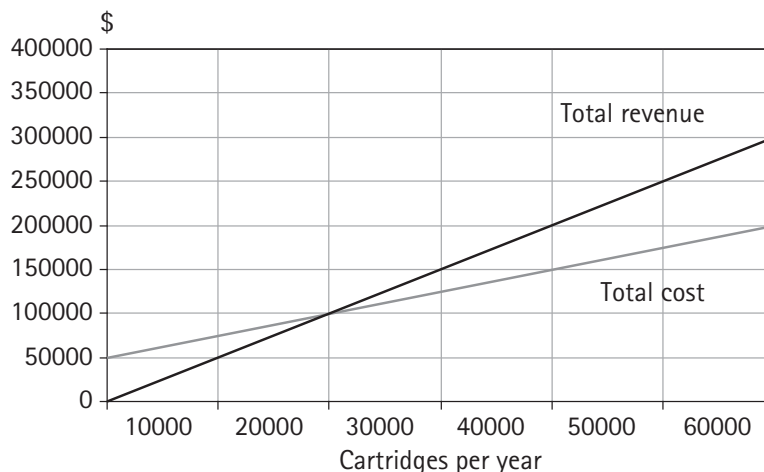
T The separation of a work process into a number of tasks, with each task performed by a separate employee or group of employees

2. Colour Co. Ltd is a small company that makes and sells printer cartridges for popular brands of inkjet computer printers. It has fixed costs of \$50,000 per year and variable costs of \$2.50 per cartridge. Each cartridge sells for \$5.

- i) Use a calculator or computer spreadsheet to complete the following table of costs and revenues for different levels of output

Output (cartridges per year)	Fixed costs	Total variable costs	Total costs	Total revenue	Profit / Loss
0	#50,000	0	#50,000	0	-\$50,000
10,000	#50,000	#25,000	#75,000	#50,000	-\$25,000
20,000	#50,000	#50,000	#100,000	#100,000	0
30,000	#50,000	#75,000	#125,000	#150,000	#25,000
40,000	#50,000	#100,000	#150,000	#200,000	#50,000
50,000	#50,000	#125,000	#175,000	#250,000	#75,000
60,000	#50,000	#150,000	#200,000	#300,000	#100,000

- ii) Use the table to plot a break-even chart below.



- iii) What is the break-even level of output? 20,000 cartridges

- iv) What will the break-even level of output be if the variable costs per cartridge increased to \$4? Use your spreadsheet to recalculate total variable costs, total costs and the profit or loss.

50,000 cartridges

- v) What will the break-even level of output be if the price of each cartridge increased to \$7.50? Use your original spreadsheet to recalculate total variable costs, total costs and the profit or loss.

10,000 cartridges (also accept around 14,286 cartridges if

variable costs of \$4 per cartridge are assumed)