

Profit Maximization

Class Activity

FLOWER COMPANY

A flower company lists the following items as either costs or revenue. Identify whether each one is a fixed cost, a variable cost, or a revenue. Rewrite each "Item" in the proper column in the table on the right.

Item	Amount
Wages	\$8 per hour
Rent for Land	\$10 per day
Water	\$1 per bouquet
Rose Bouquet	\$24 per bouquet
Tulip Bouquet	\$24 per bouquet
Fertilizer	\$2 per bouquet
Property Taxes	\$5 per day
Lily Bouquet	\$24 per bouquet

Fixed Costs	Variable Costs	Revenue

Use the data from the "Amount" column to fill out the table below. Suppose it takes 2 hours of labor to make 1 bouquet, 3 hours of labor to make 2 bouquets, 5 hours of labor to make 3 bouquets, 9 hours to make 4 bouquets, and 15 hours to make 5 bouquets. Use a calculator to help you fill in the table below.

Output (Bouquets)	Fixed Costs	Variable Costs	Total Cost	AFC	AVC	ATC	Marginal Cost	Total Revenue	Marginal Revenue	Profit
1										
2										
3										
4										
5										

COFFEE SHOP

A local coffee shop estimates its nightly costs and revenue in the table below. Calculate the values for the empty cells. Then, plot AVC, ATC, MC, and MR on the graph below. Answer the three questions below.

- A) In order to maximize profits, firms should produce where $MC = MR$. How much output will this firm produce?
- B) Should this coffee shop continue to produce in the short run? In other words, is price greater than Average Variable Cost (AVC) at its optimal level of output?
- C) Should this coffee shop continue to produce in the long run? In other words, is price greater than Average Total Cost (ATC) at its optimal level of output?

Output (Cups of Coffee)	Price	Variable Costs	AVC	Total Cost	ATC	Marginal Cost	Total Revenue	Marginal Revenue	Profit
0	\$4	\$0	-	\$8	-	-		-	
1	\$4	\$4		\$12					
2	\$4	\$6		\$14					
3	\$4	\$10		\$18					
4	\$4	\$16		\$24					
5	\$4	\$24		\$32					
6	\$4	\$34		\$42					
7	\$4	\$46		\$54					

