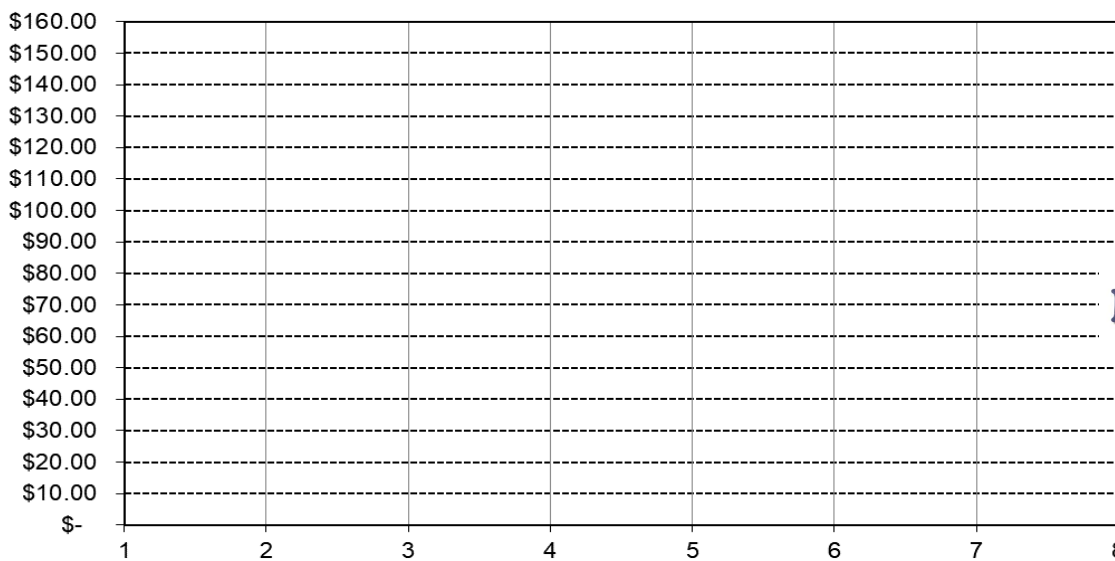


## Costs and Output: Exploring ideas and putting Chapter 9 to work! Overview of Ch. 9 & 10.

I have a business in a rented workshop, where I carve wooden animals out of logs using a chainsaw. I have a helper named Jake, who I have to pay per hour to help cut logs, etc. The cost of rent, and **normal profit** and implicit costs (money tied up in tools, what I could earn from owning a different business) is \$50 per day *whether or not I produce anything*. When I carve animals, I pay for wood, heat, electricity, Jake, and also take time away from relaxing or teaching. My costs (including **everything**) to produce animals are the following:

# produced	Total Cost	Fixed Cost	Variable Cost	Marginal Cost	Avg. Total Cost	Avg. VC
0	\$50			-----	----	----
1	\$150					
2	\$160					
3	\$180					
4	\$210					
5	\$260					
6	\$320					
7	\$400					
8	\$500					



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What we want to find out is, how many animals should I produce? Of course this will depend on the price I think I can get for my animals, i.e., the market price.

A. Suppose I can sell as many as I want for \$71 each.

How many should I make? \_\_\_\_\_

How much Profit do I earn? \_\_\_\_\_

How much would I make if I stayed in bed? \_\_\_\_\_

B. Now suppose that due to foreign competition, now I can sell as many as I want for \$51 each.

How many should I make? \_\_\_\_\_

How much Profit do I earn? \_\_\_\_\_

How much would I make if I stayed in bed? \_\_\_\_\_

C. Now suppose that the tourists in North Carolina go home, and I can only sell them for \$33.

How many should I make? \_\_\_\_\_

How much Profit do I earn? \_\_\_\_\_

How much would I make if I stayed in bed? \_\_\_\_\_

Should I work, or stay in bed? \_\_\_\_\_

What is the general rule for how much to produce?

What is the general rule for *whether or not to produce*?

What is my supply curve for Wooden Carvings? (How do price and Quantity Supplied relate?)

**Chapter 9: Vocabulary:** We'll talk about some of these, but make sure you understand them **all!!**

- A. Short Run vs. Long Run Decisions
- B. Total Fixed costs + Total Variable Costs = Total Costs
- C. Average costs:  
Average Total Cost (ATC):  
Average Variable Cost (AVC):  
Average Fixed Cost (AFC):  
What does it mean if our price is higher than ATC?
- D. Explicit Costs + Implicit Costs = Total Costs
- E. Economic Depreciation (*vs. Accounting Depreciation*)
- F. Marginal Cost
- G. Total Revenue: Price \* Quantity
- H. Accounting Profit  
Economic Profit  
Normal Profit  
A positive accounting profit means?  
A positive economic profit means?
- I. Marginal Revenue (Sometimes price, sometimes not!): Additional revenue brought in for selling one more unit. Will not be the same as "price" if you have to lower your price and sell more units )
- Production Functions:  $Q = f(\text{Land, Labor, Capital, Entrepreneurship})$
- J. Total Product
- K. Marginal Product  
{of labor, of fertilizer, etc.}  
(As marginal product ↑, marginal cost ↓)
- L. Average Product (*productivity*):
- M. Increasing **Marginal Returns**  
Diminishing **Marginal Returns**  
**Law of diminishing returns**  
Why? We can't feed the whole world out of a flower pot!
- N. Economies of **Scale** (Or Increasing *Returns to Scale*)  
Diseconomies of **Scale** (or Decreasing *Returns to Scale*)  
Constant *Returns to Scale*
- O. Long Run ATC Curves



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