The Costs of Production

1. Total revenue necessarily equals
   a. total output multiplied by the average cost of output.
   b. total output multiplied by sales price of output.
   c. (total output multiplied by sales price) – inventory surplus.
   d. (total output multiplied by the average cost of output) – inventory shortage.

ANSWER: b. total output multiplied by sales price of output.

2. An example of an implicit cost of production would be the
   a. cost of raw materials for a printing company to print books.
   b. income an entrepreneur could have earned working elsewhere.
   c. cost of a delivery truck in a business that rarely makes deliveries.
   d. All of the above are correct.

ANSWER: b. income an entrepreneur could have earned working elsewhere.

3. In economics, the field of industrial organization answers which of the following questions?
   a. Why are consumers subject to the law of demand?
   b. Why do firms experience falling marginal product of labor?
   c. Why do firms consider production costs when determining product supply?
   d. How does the difference in the number of firms affect prices and efficiency of market outcomes?

ANSWER: d. How does the difference in the number of firms affect prices and efficiency of market outcomes?

Miranda wants to start her own business. The business she wants to start will require that she purchase a factory that costs $400,000. She is planning to use $300,000 of her own money, and borrow an additional $100,000 to finance the factory purchase. Assume the relevant interest rate is 10 percent.

4. According to this scenario, what is the explicit cost of purchasing the factory for the first year of operation?
   a. $10,000
   b. $20,000
   c. $30,000
   d. $40,000

ANSWER: a. $10,000

5. According to this scenario, what is the opportunity cost of purchasing the factory for the first year of operation?
   a. $10,000
   b. $20,000
   c. $30,000
   d. $40,000

ANSWER: d. $40,000

6. The marginal product of labor can be defined as (where Δ denotes "change")
   a. Δprofit/Δlabor.
   b. Δoutput/Δlabor.
   c. Δlabor/Δtotal cost.
   d. Δlabor/Δoutput.

ANSWER: b. Δoutput/Δlabor.

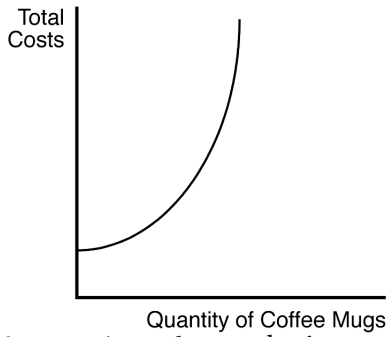
7. Diminishing marginal product of labor would arise when
   a. workers are discouraged about the lack of help from other workers.
   b. only new workers are trained in using the most productive capital.
   c. crowded office space reduces the productivity of new workers.
   d. union workers are told to reduce their work effort in preparation for a new round of collective bargaining talks.

ANSWER: c. crowded office space reduces the productivity of new workers.

8. The slope of the total product curve reveals information about the
   a. marginal product of workers.
   b. average product of workers.
   c. maximum product of workers.

d. total product of workers.
ANSWER: a. marginal product of workers.

The figure depicts a total cost function for a firm that produces coffee mugs.



9. According to the figure, which of the statements below best captures information about the underlying production function?
a. Output increases at an increasing rate with additional units of input.
b. Output decreases at an increasing rate with additional units of input.
c. Output increases at a decreasing rate with additional units of input.
d. Output decreases at a decreasing rate with additional units of input.
ANSWER: c. Output increases at a decreasing rate with additional units of input.
10. According to the figure, which of the statements below concerning production is most consistent with the shape of the total cost curve?
a. Producing an additional coffee mug always has a higher cost than producing the previous coffee mug.
b. Producing an additional coffee mug is always less costly than producing the previous coffee mug.
c. Producing an additional coffee mug always has the same cost as producing the previous coffee mug.
d. None of the above is correct for all quantities.
ANSWER: a. Producing an additional coffee mug always has a higher cost than producing the previous coffee mug.
11. Which of the following costs will be zero if a firm produces zero?
a. average cost
b. variable cost
c. opportunity cost
d. All of the above are correct.
ANSWER: b. variable cost
12. The cost to produce an additional unit of output is the firm's
a. average variable cost.
b. marginal cost.
c. average opportunity cost.
d. total productivity cost.
ANSWER: b. marginal cost.
13. Average total cost equals
a. (fixed costs + variable costs)/quantity produced.
b. (fixed costs + variable costs)/change in quantity produced.
c. change in total costs/quantity produced.
d. change in total costs/change in quantity produced.
ANSWER: a. (fixed costs + variable costs)/quantity produced.
14. If we assume that marginal product of labor is always decreasing, average total cost
a. and average fixed cost are always falling.
b. and average fixed cost are always U-shaped.
c. and average fixed cost are always rising.
d. is U-shaped and average fixed cost is always falling.
ANSWER: d. is U-shaped and average fixed cost is always falling.

15. If marginal cost is rising
    a. average total cost must be falling.
    b. average fixed cost must be rising.
    c. marginal product must be rising.
    d. marginal product must be falling.

ANSWER: d. marginal product must be falling.

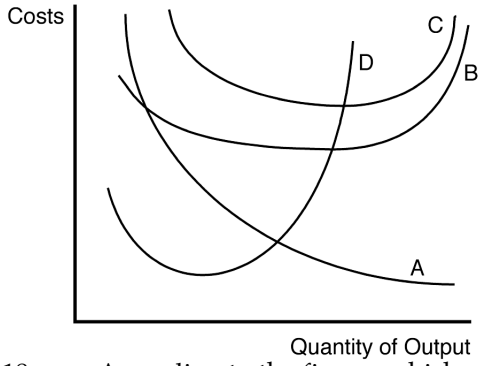
16. Average total cost is very high when a small amount of output is produced because
    a. average fixed cost is large.
    b. of diminishing marginal product.
    c. variable costs are spread over only a few units of output.
    d. All of the above are correct.

ANSWER: a. average fixed cost is large.

17. At all levels of production beyond the point where the marginal cost curve crosses the average variable cost curve, average variable cost
    a. falls.
    b. rises.
    c. does not change.
    d. All of the above are possible, it depends on the shape of the marginal cost curve.

ANSWER: b. rises.

The figure reflects information about the cost structure of a firm.



18. According to the figure, which of the lines is most likely to represent average total cost?
    a. A
    b. B
    c. C
    d. D

ANSWER: c. C

19. According to the figure, which of the lines is most likely to represent marginal cost?
    a. A
    b. B
    c. C
    d. D

ANSWER: d. D

20. According to the figure, this particular firm is necessarily experiencing increasing marginal product when line
    a. B is falling.
    b. C is falling.
    c. D is falling.
    d. None of the above is correct.

ANSWER: c. D is falling.

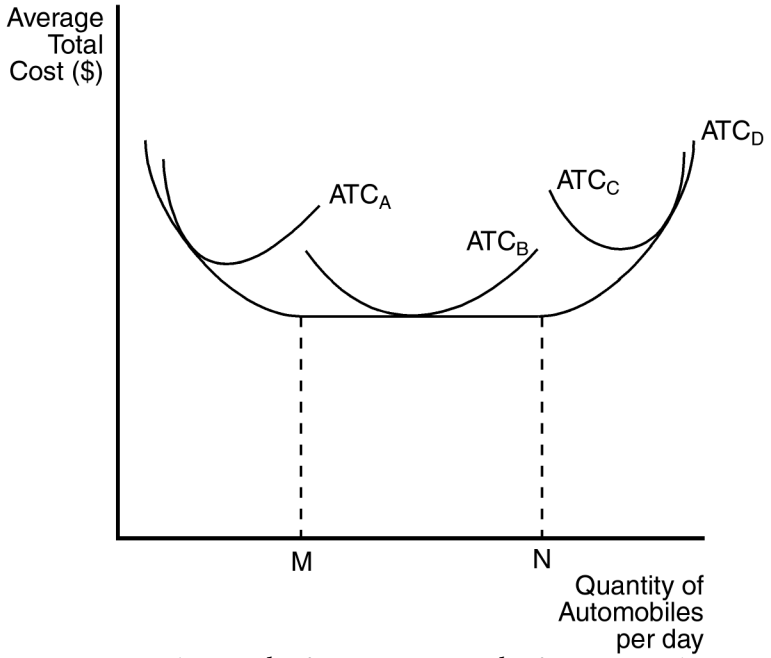
21. According to the figure, line D is necessarily U-shaped because of
    a. the fact that decreasing marginal product follows increasing marginal product.
    b. the fact that increasing marginal product follows decreasing marginal product.
    c. diminishing marginal product.
    d. increasing marginal product.

ANSWER: a. the fact that decreasing marginal product follows increasing marginal product.

22. When a factory is operating in the short run,
    a. it cannot alter variable costs.
    b. total cost and variable cost are usually the same.
    c. average fixed cost rises as output increases.
    d. it cannot adjust the quantity of some inputs.

ANSWER: d. it cannot adjust the quantity of some inputs.

The figure depicts average total cost functions for a firm that produces automobiles.



23. According to the figure, suppose the firm currently operates on the minimum of ATC_B. If it increases production, but not all the way to N, then short-run average total cost
    a. and long-run average total cost increase.
    b. and long-run average total cost decrease.
    c. rises and long-run average total cost is unchanged.
    d. is unchanged and long-run average total cost increases.

ANSWER: c. rises and long-run average total cost is unchanged.

24. According to the figure, this firm experiences diseconomies of scale at what output levels?
    a. output levels above N
    b. output levels between M and N
    c. output levels below M
    d. None of the above is correct.

ANSWER: a. output levels above N

25. Economies of scale arise when
    a. an economy is self-sufficient in production.
    b. individuals in a society are self-sufficient.
    c. workers are able to specialize in a particular task.
    d. fixed costs are large relative to variable costs.

ANSWER: c. workers are able to specialize in a particular task.

1 ANSWER: b. total output multiplied by sales price of output.
TYPE: M KEY1:D SECTION:1 OBJECTIVE: 1 RANDOM:Y

2 ANSWER: b. income an entrepreneur could have earned working elsewhere.
TYPE: M KEY1:D SECTION:1 OBJECTIVE: 1 RANDOM:Y

3 ANSWER: d. How does the difference in the number of firms affect prices and efficiency of market outcomes?
TYPE: M KEY1:D SECTION:1 OBJECTIVE: 1 RANDOM:Y

4 ANSWER: a. $10,000
TYPE: M KEY1:D SECTION:1 OBJECTIVE: 1 RANDOM: N INSTRUCTION:1

5 ANSWER: d. $40,000
TYPE: M KEY1:D SECTION:1 OBJECTIVE: 1 RANDOM: N INSTRUCTION:1

6 ANSWER: b. (output/(labor.
TYPE: M KEY1:E SECTION:2 OBJECTIVE: 2 RANDOM:Y

7 ANSWER: c. crowded office space reduces the productivity of new workers.
TYPE: M KEY1:D SECTION:2 OBJECTIVE: 2 RANDOM:Y

8 ANSWER: a. marginal product of workers.
TYPE: M KEY1:D SECTION:2 OBJECTIVE: 2 RANDOM:Y

9 ANSWER: c. Output increases at a decreasing rate with additional units of input.
TYPE: M KEY1:G SECTION: 2 OBJECTIVE: 2 RANDOM: N GRAPH: 1

10 ANSWER: a. Producing an additional coffee mug always has a higher cost than producing the previous coffee mug.
TYPE: M KEY1:G SECTION:2 OBJECTIVE: 2 RANDOM: N GRAPH: 1

11 ANSWER: b. variable cost
TYPE: M KEY1:D SECTION:3 OBJECTIVE: 3 RANDOM:Y

12 ANSWER: b. marginal cost.
TYPE: M KEY1:D SECTION:3 OBJECTIVE: 3 RANDOM:Y

13 ANSWER: a. (fixed costs + variable costs)/quantity produced.
TYPE: M KEY1:E SECTION:3 OBJECTIVE: 3 RANDOM:Y

14 ANSWER: d. is U-shaped and average fixed cost is always falling.
TYPE: M KEY1:D SECTION:3 OBJECTIVE: 3 RANDOM:Y

15 ANSWER: d. marginal product must be falling.
TYPE: M KEY1:D SECTION:3 OBJECTIVE: 3 RANDOM:Y

16 ANSWER: a. average fixed cost is large.
TYPE: M KEY1:D SECTION:3 OBJECTIVE: 3 RANDOM:Y

17 ANSWER: b. rises.
TYPE: M KEY1:D SECTION:3 OBJECTIVE: 3 RANDOM:Y

18 ANSWER: c. C
TYPE: M KEY1:D SECTION:3 OBJECTIVE: 4 RANDOM:N GRAPH:2

19 ANSWER: d. D
TYPE: M KEY1:D SECTION:3 OBJECTIVE: 4 RANDOM:N GRAPH:2

20 ANSWER: c. D is falling.
TYPE: M KEY1:D SECTION:3 OBJECTIVE: 4 RANDOM:N GRAPH:2

21 ANSWER: a. the fact that decreasing marginal product follows increasing marginal product.
TYPE: M KEY1:D SECTION:3 OBJECTIVE: 4 RANDOM:N GRAPH: 2

22 ANSWER: d. it cannot adjust the quantity of some inputs.
TYPE: M KEY1:D SECTION:4 OBJECTIVE: 5 RANDOM:Y

23 ANSWER: c. rises and long run average total cost is unchanged.
TYPE: M KEY1:D SECTION:4 OBJECTIVE: 5 RANDOM: N GRAPH:3

24 ANSWER: a. output levels above N
TYPE: M KEY1:D SECTION:4 OBJECTIVE: 5 RANDOM:N GRAPH:3

25 ANSWER: c. workers are able to specialize in a particular task.
TYPE: M KEY1:D SECTION:4 OBJECTIVE: 5 RANDOM:Y