

Sample True/False/Explain Questions  
Spring 2013

I do not have written solutions for these questions, so please do not ask!

## Production and Costs

1. The total cost curve has the same slope as the total variable cost curve at every level of output.
2. When marginal cost is at a minimum then marginal product *must* be at a maximum.
3. The slope of the total cost curve equals the slope of the total variable cost curve at every level of output.
4. The slope of the average total cost curve equals the slope of the average variable cost curve at every level of output.
5. If marginal cost is increasing then the average total cost *must* be increasing.
6. If average variable cost is rising then average total cost *must* be rising.
7. If average product of a single variable input is declining, then short run average total cost *must* be rising.
8. If L is the only variable factor used in the production of  $y$ ,  $MP_L = 4$  and  $w = 5$ , then the marginal cost of  $y$  is \$0.80.
9. If the total product of a variable factor is increasing, then the average product of a variable factor must be increasing.
10. Suppose a firm uses one variable input. If marginal cost equals average total cost, then marginal product equals average product.
11. If marginal product is falling then average product *must* be falling.
12. To minimize the cost of producing a given quantity of output, the input bundle *must* be chosen so that the marginal products of all inputs are identical
13. The long run marginal cost curve is flatter than the short run marginal cost curve.
14. The long run cost function  $C(y) = K + cy$  (where  $K, c$  are positive constants) imply increasing returns to scale.
15. Given the short run production function  $q = 20L^2 - L^3$ , and a wage of \$10, when  $L = 10$  marginal cost is \$0.10
16. A firm has the production function  $y = z_1^2 z_2$ . If  $w_1 = w_2$ , then the cost minimizing bundle requires the firm to use twice as much  $z_1$  as  $z_2$ .
17. If average total cost is rising then average variable cost *must* be rising.

18. A perfectly competitive firm would shut down if -at the profit maximizing output-average product was still rising.
19. If a per unit tax is placed on a perfectly competitive, decreasing cost industry, in the long run the price will rise by more than the tax.
20. Since, in the long run, farmers operating under a quota system make zero economic profits, resources in this industry are allocated efficiently.

## Competitive markets

1. Although high fixed costs may be the cause of pure economic losses, they can never be the reason for closing down.
2. If perfectly competitive firms are making pure economic profits then, in the long run, we can expect that the equilibrium price will fall, the quantity supplied in the market will rise, and the *output per firm will fall*. (assume constant cost industry)
3. If a per unit tax is placed on a perfectly competitive, increasing cost industry, in the long run the price will rise by more than the tax.
4. If a per unit tax is placed on a perfectly competitive, constant cost industry, in the long run the price will rise by more than the tax.
5. The short run supply curve of a competitive firm tends to slope upwards from left to right because of the law of diminishing returns.
6. If a per unit production tax is levied on a competitive industry in which all firms are identical, some firms will leave the industry but the output of those remaining will be unchanged.
7. Since every firm in a competitive industry earns zero economic profit in long run equilibrium, a fall in market price would mean no firms at all could continue to survive in the long run.
8. If a competitive firm is maximizing average (per unit) profit, the firm *must* be maximizing its total profit.
9. If a perfectly competitive firm is making pure economic profit then, in the long run, the firm's output will fall but the industry output will rise.
10. The long-run price of wheat under a lump sum subsidy paid to wheat farmers will be higher than the price under a per-unit subsidy paid to wheat farmers if the total subsidies paid to **each** farmer are equivalent under the two subsidy arrangements.
11. The horizontal summation of the long run marginal cost curves of individual firms is not the long run supply curve for the industry.
12. If every firm in a perfectly competitive market has an average cost of  $AC = \frac{16}{q} + q$ , and the market demand curve is given by  $P = 12 - .01Q$ , then the long run equilibrium number of firms will be 60.

## Monopoly

1. An ordinary monopolist who doesn't face any threat of entry will always operate on the elastic portion of his demand curve.
2. In comparing long run equilibrium between perfect competition and monopoly, one can say that the monopolist would be willing to sell more at the equilibrium price whereas the competitive firm is not willing to sell any further units at the equilibrium price.
3. Falling average total cost over the range of output that equals market demand is sufficient to produce a natural monopoly.
4. If an unregulated monopolist is making zero profit then it must be true that price equals minimum average total cost
5. A monopolist faces the following demand curve:  $p = 20 - 2q$ . If he has constant marginal cost of \$4 and fixed cost of \$30, then the monopolist makes a profit of \$64.
6. A profit maximising monopolist will always produce an output that is less than the output that maximises sales revenue.
7. A monopolist faces a demand curve of  $P = 16 - Q$  and has a marginal cost of  $MC = 4 + Q$ . If the monopolist sets a price of \$13/unit with a minimum purchase requirement of 6 units, this will give him the maximum possible profits.
8. If the market demand curve has an elasticity of -2 then the marginal revenue is three-quarters of the price. If the monopolist's average cost is a horizontal straight line, then profit is one-quarter of total revenue.