



Complete each of the following. Show your work.

1. Assume the total cost for a firm is \$120 and the average variable cost is \$15 when it produces 6 units. Calculate the average fixed cost.
2. Assume a firm in a perfectly competitive market is producing the profit maximizing quantity and earning \$400 of total revenue. If the fixed cost increased by \$10 and the quantity is 80 units, how much is the marginal cost?
3. Suppose a firm is earning \$300 of total revenue. If the average total cost is \$25 and price is \$30, how much is the total profit or loss?
4. Suppose a firm in a perfectly competitive market is selling 12 units at a price of \$8 each. If the total fixed cost is \$24 and the average variable cost is \$4, how much is the total profit or loss?

Use the graph to the right to complete questions 5-9.

5. Calculate the consumer surplus before the tax.
6. Calculate the consumer surplus after the tax.
7. Calculate the deadweight loss after the tax, assuming no externalities.
8. Calculate the elasticity of supply coefficient from moving from \$8 to \$10.
9. Assume instead that the demand was vertical at quantity 25. Calculate the elasticity of demand coefficient from moving from \$8 to \$12.
10. Assume the price of bread increased from \$4 to \$6 causing the quantity demanded of bread to decrease from 20 to 16. Calculate the elasticity of demand coefficient.
11. Assume the price of bread increased from \$5 to \$6 causing the quantity demanded of butter to decrease from 20 to 15. Calculate the cross price elasticity of demand coefficient for butter.
12. If income increased 10% causing the quantity demanded to increase from 12 to 15, what is the income elasticity of demand coefficient?
13. Assume a profit maximizing firm utilizes labor and capital. If the marginal product of labor is 10, the marginal product of capital is 20, and the price of labor is \$20, what is the price of capital?
14. Assume Bob is maximizing his utility from consuming tacos and burritos and the price of a taco is \$2 and the price of a burrito is \$5. If Bob's marginal utility from the last burrito is 20, what is his marginal utility from the last taco?

