## Self-Check Questions

[1](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-7#fs-idm18450688-solution).

A firm had sales revenue of $1 million last year. It spent $600,000 on labor, $150,000 on capital and $200,000 on materials. What was the firm’s accounting profit?

[2](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-7#fs-idp12466368-solution).

Continuing from [Exercise 7.1](#fs-idm18450688), the firm’s factory sits on land owned by the firm that it could rent for $30,000 per year. What was the firm’s economic profit last year?

[3](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-7#fs-idm67487424-solution).

The WipeOut Ski Company manufactures skis for beginners. Fixed costs are $30. Fill in [Table 7.16](#Table_07_04) for total cost, average variable cost, average total cost, and marginal cost.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Quantity | Variable Cost | Fixed Cost | Total Cost | Average Variable Cost | Average Total Cost | Marginal Cost |
| 0 | 0 | $30 |  |  |  |  |
| 1 | $10 | $30 |  |  |  |  |
| 2 | $25 | $30 |  |  |  |  |
| 3 | $45 | $30 |  |  |  |  |
| 4 | $70 | $30 |  |  |  |  |
| 5 | $100 | $30 |  |  |  |  |
| 6 | $135 | $30 |  |  |  |  |

Table 7.16

[4](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-7#fs-idm78693232-solution).

Based on your answers to the WipeOut Ski Company in [Exercise 7.3](#fs-idm67487424), now imagine a situation where the firm produces a quantity of 5 units that it sells for a price of $25 each.

1. What will be the company’s profits or losses?
2. How can you tell at a glance whether the company is making or losing money at this price by looking at average cost?
3. At the given quantity and price, is the marginal unit produced adding to profits?

[5](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-7#eip-561-solution).

If two painters can paint 200 square feet of wall in an hour, and three painters can paint 275 square feet, what is the marginal product of the third painter?

[6](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-7#fs-idm79135792-solution).

Return to the problem explained in [Table 7.13](http://openstax.org/books/principles-microeconomics-3e/pages/7-5-costs-in-the-long-run#Table_07_06) and [Table 7.14](http://openstax.org/books/principles-microeconomics-3e/pages/7-5-costs-in-the-long-run#Table_07_07). If the cost of labor remains at $40, but the cost of a machine decreases to $50, what would be the total cost of each method of production? Which method should the firm use, and why?

[7](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-7#fs-idm87728624-solution).

Suppose the cost of machines increases to $55, while the cost of labor stays at $40. How would that affect the total cost of the three methods? Which method should the firm choose now?

[8](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-7#fs-idm73118336-solution).

Automobile manufacturing is an industry subject to significant economies of scale. Suppose there are four domestic auto manufacturers, but the demand for domestic autos is no more than 2.5 times the quantity produced at the bottom of the long-run average cost curve. What do you expect will happen to the domestic auto industry in the long run?