

2. The table provided shows the short-run production function for Lowen Feline, a profit-maximizing firm that produces cat food.

Number of Workers	Total Quantity of Cat Food (bags)
0	0
1	5
2	12
3	18
4	23
5	27
6	30
7	32
8	33
9	32

Lowen Feline sells as many bags of cat food as it wants at a market price of \$10 per bag and hires as many workers as it wants at a market wage of \$18.

(a) Lowen Feline’s fixed cost is \$90. Calculate the average fixed cost if Lowen Feline hires 6 workers. Show your work.

(b) Assume labor is the only variable input to Lowen Feline. Calculate the marginal cost if Lowen Feline increases output from 27 to 30 units. Show your work.

(c) With the hiring of which worker do diminishing marginal returns begin? Explain using numbers.

(d) Determine the profit-maximizing number of workers Lowen Feline will hire. Explain using marginal analysis.

(e) In the long run, a rival company, Gato Food, increases its production from 40 to 50 units, and its total cost increases from \$600 to \$900. Over the output range of 40 to 50 units, is Gato Food experiencing economies of scale, diseconomies of scale, or constant returns to scale? Explain using numbers.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.