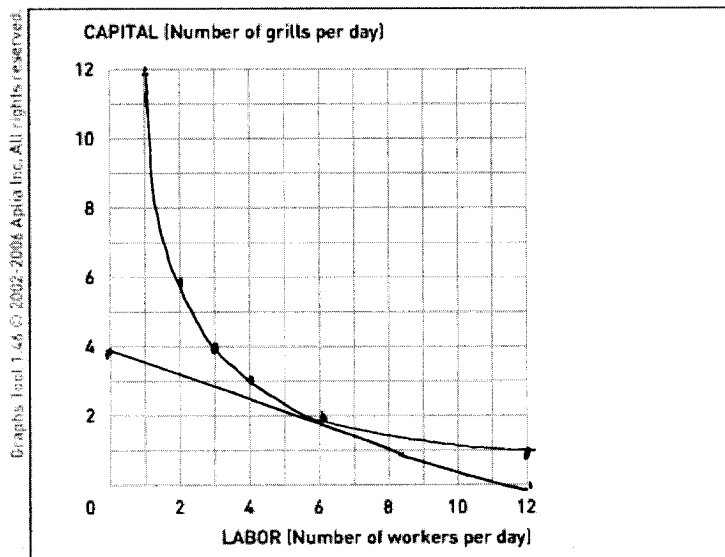


Part II. Analytical Questions

Question 1 (24 points)

Burger Joint is a restaurant specializing in grilled hamburgers. To make its burgers, Burger Joint requires only two inputs: capital (K) and labor (L). Burger Joint's production function is $Q = L^2 K^2$, where K is the number of grills used per day L is the number of workers working a day, and Q is the number of hamburgers made per day. The marginal products of labor and capital are $MP_L = 2LK^2$ and $MP_K = 2L^2 K$, respectively.

- (a) In the diagram below, plot Burger Joint's isoquant for an output of 144 burgers ($Q = 144$). Do this by plotting the points associated with these values for L : $L = 1, 2, 3, 4, 6, 12$. (Hint: $Q = L^2 K^2 = (LK)^2$ so $\sqrt{Q} = Q^{0.5} = LK$.)



- (b) Wages are \$48 per worker per day and the rental rate for capital is \$144 per grill per day. Graph the isocost curve for a total cost of \$576.
- (c) Write down an equation for this isocost curve.

$$576 = 144K + 48L$$

- (d) Given the input prices above (\$48 per worker per day and \$144 per grill per day), if output is 144 burgers today, then how many workers and how many grills will Burger Joint choose to use today (assume that both workers and grills are variable inputs).

$$L = 6, K = 2$$

Test 3 Multiple Choice Answers

C
B
A
C
C
C
D
C
D
B
C
B
B
B
B
D

Question 2. (28 points)

The diagram below shows a firm's long-run total cost function and three short-run total cost functions (for $K = 25, 50, 75$). In the lower panel of the diagram, the firm's long-run average cost curve is drawn.

Complete the lower panel of the diagram by plotting three short-run average cost curves (for $K = 25, 50, 75$), three short-run marginal cost curves (for $K = 25, 50, 75$), and the long-run marginal cost curve.

