A firm has fixed costs of $60 and variable costs as indicated in the table on the following page.

Complete the table and check your calculations.

*a.* Graph total fixed cost, total variable cost, and total cost.

Explain how the law of diminishing returns influences

the shapes of the variable-cost and total-cost curves.

*b.* Graph AFC, AVC, ATC, and MC. Explain the derivation

and shape of each of these four curves and their

relationships to one another. Specifically, explain in

nontechnical terms why the MC curve intersects both

the AVC and the ATC curves at their minimum points.

*c.* Explain how the location of each curve graphed in

question 7b would be altered if (1) total fixed cost had

been $100 rather than $60 and (2) total variable cost

had been $10 less at each level of output.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Total Product | Total Fixed Cost $ | Total Variable Cost $ | Total Cost $ | Average Fixed Cost $ | Average Variable Cost $ | Average Total Cost $ | Marginal Cost $ |
| 0 |  | 0 |  |  |  |  |  |
| 1 |  | 45 |  |  |  |  |  |
| 2 |  | 85 |  |  |  |  |  |
| 3 |  | 120 |  |  |  |  |  |
| 4 |  | 150 |  |  |  |  |  |
| 5 |  | 185 |  |  |  |  |  |
| 6 |  | 225 |  |  |  |  |  |
| 7 |  | 270 |  |  |  |  |  |
| 8 |  | 325 |  |  |  |  |  |
| 9 |  | 390 |  |  |  |  |  |
| 10 |  | 465 |  |  |  |  |  |