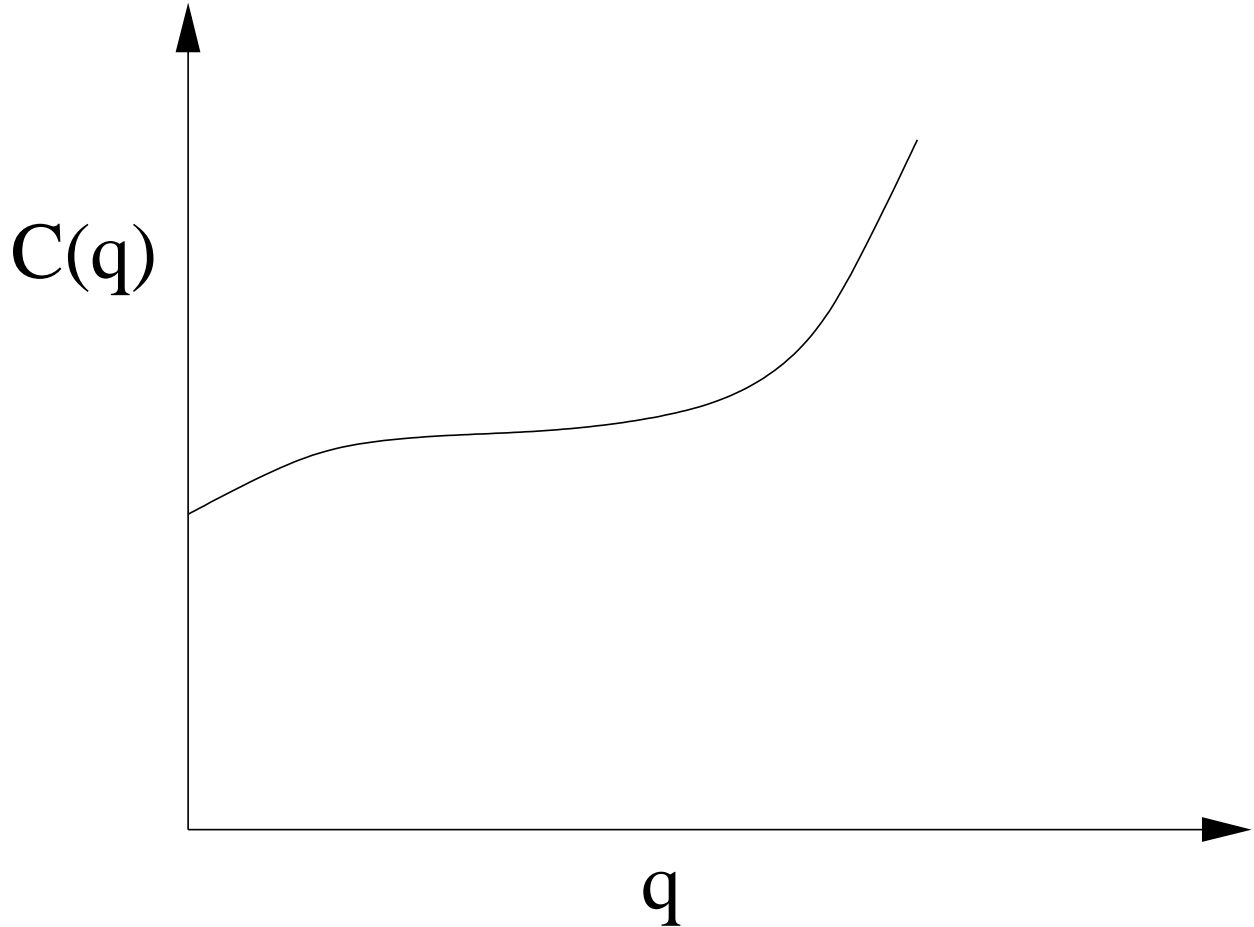


# Chapter 4.5: Applications to Marginality

## Calculus I

College of the Atlantic. Fall 2021



1. Indicate the value of  $q$  that minimizes marginal cost.
2. Recall that the the average cost to produce  $q$  items is  $a(q) = C(q)/q$ . Indicate the value of  $q$  that minimizes average cost. Is it the same  $q$  value that minimizes marginal cost?
3. Sketch the marginal cost curve,  $C'(q)$ .
4. Indicate the  $q$  value that maximizes profit. (See the graph on the other side of the page.)
5. Suppose that fixed costs increase, while everything else remains the same. How does this affect the  $q$  that maximizes profit? Does this answer make sense?
6. Suppose that the revenue per item increases (and that the revenue curve remains linear). How does this affect the  $q$  that maximizes profit? Does this answer make sense?
7. Which point on the parabola  $y = x^2$  is nearest to the point  $(1, 0)$ ?

