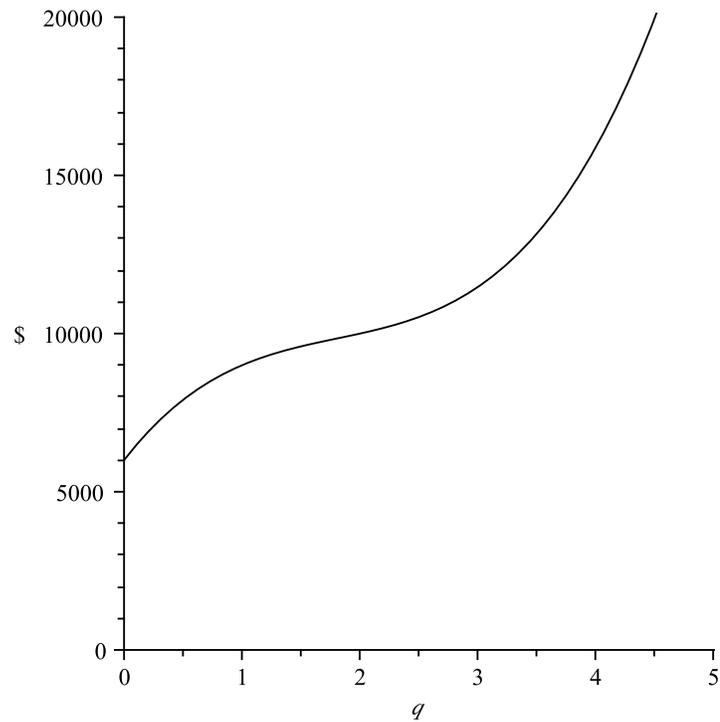


Example 1. (Hughes-Hallett, 4e, 2.5 Ex. 3) The graph of a cost function is shown below. Does it cost more to make the 500th item or the 2000th? (This means just that item, not all the items 1, 2, 3, \dots , 500, together.) At approximately what production level is marginal cost the smallest? What is the total cost at this level?



Example 2. (Hughes-Hallet, 4e, 2.5#11) Let $C(q)$ represent the cost and $R(q)$ represent the revenue, in dollars, of producing q items.

- (a) If $C(50) = 4300$ and $C'(50) = 24$, estimate $C(52)$.
- (b) If $C'(50) = 24$ and $R'(50) = 35$, approximately how much profit is earned by the 51st item?
- (c) If $C'(100) = 38$ and $R'(100) = 35$, should the company produce the 101st item? Why or why not?