

Example 1. The marginal cost $C'(q)$ of making T-shirts is shown below. Suppose that the fixed cost is \$100.

q	0	20	40	60	80	100
$C'(q)$ (MC)	10	4.67	3.95	3.58	3.33	3.15

- (a) Estimate the total cost of making 60 T-shirts.
- (b) What is the total variable cost of making 60 T-shirts?
- (c) Estimate the difference in cost between making 60 T-shirts and 100.

Example 2. (Hughes-Hallett, 3e, 5.5#8) The marginal cost function of producing q mountain bikes is

$$C'(q) = \frac{600}{0.3q + 5}.$$

- (a) If the fixed cost in producing the bicycles is \$2000, find the total cost to produce 30 bicycles.
- (b) If the bikes are sold for \$200 each, what is the profit (or loss) on the first 30 bicycles?
- (c) Find the marginal profit on the 31st bicycle.