

49. A ladder 25 ft long leans against a vertical wall. If the lower end is being moved away from the wall at the rate of 6 ft/sec, how fast is the height of the top decreasing when the lower end is 7 ft from the wall? [2.7]
50. **Business: total revenue, cost, and profit.** Find the rates of change, with respect to time, of total revenue, cost, and profit for
- $$R(x) = 120x - 0.5x^2 \quad \text{and} \quad C(x) = 15x + 6,$$
- when $x = 100$ and $dx/dt = 30$ units per day. Assume that $R(x)$ and $C(x)$ are in dollars. [2.7]