

NAME _____

SCORE: _____

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The research department in a company that manufactures AM/FM clock radios established the following functions:

Revenue: $R(x) = -1.25x^2 + 50x$ and Cost: $C(x) = 160 + 10x$
where x , $0 \leq x \leq 40$, is in thousands, and $R(x)$ and $C(x)$ are in thousands of dollars.

- A. What is the production level of radios (to the nearest thousand) at which the company would reach its maximum revenue level.
- B. Find the production level(s) of radios (to the nearest thousand) at which the company has break-even point(s). Sketch a simple graph and indicate your answers on the graph.
- C. Will the company make a profit or a loss if it manufactures and sells 12,000 radios? Explain.