

# MTHSC 102 SECTION 4.5 – MARGINAL ANALYSIS

Kevin James

## EXAMPLE

The cost and revenue for the production of  $q$  million barrels of crude oil at a certain company's oil field can be modeled by

$$C(q) = 0.24q^3 - 5.1q^2 + 40.27q + 0.15 \quad \text{million dollars}$$

$$R(q) = -0.03q^3 + 0.52q^2 + 41.69q \quad \text{million dollars,}$$

where  $0 < q < 17$ .

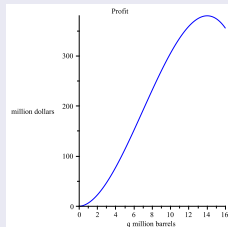
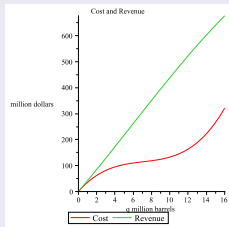
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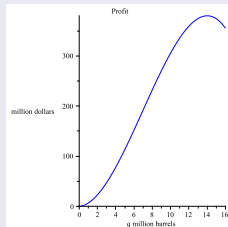
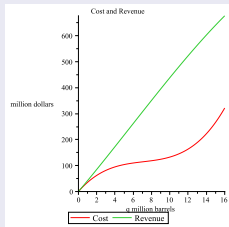
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Find the number of barrels to produce in order to maximize profit.

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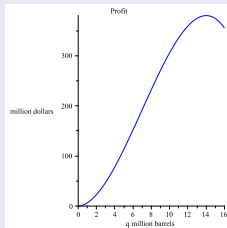
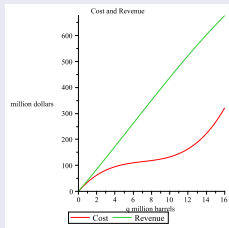
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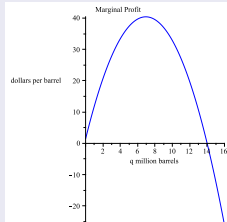
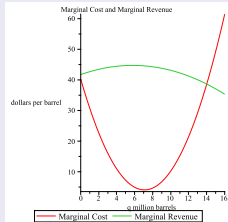
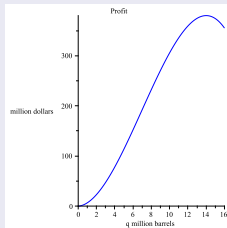
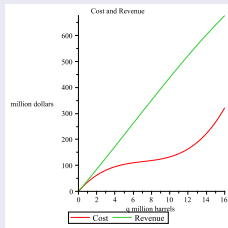


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