BECA / Huson / Algebra 2: Business applications Regents
5 November 2024

Regents problems: Polynomial applications

1. Stone Manufacturing has developed a cost model, $C(x) = 0.18x^3 + 0.02x^2 + 4x + 180$, where x is the number of sprockets sold, in thousands. The sale price can be modeled by $S(x) = 95.4 - 6x$ and the company's revenue by $R(x) = x \cdot S(x)$. The company profits, $R(x) - C(x)$, could be modeled by

   (a) $0.18x^3 + 6.02x^2 + 91.4x + 180$

   (b) $0.18x^3 - 5.98x^2 - 91.4x + 180$

   (c) $-0.18x^3 - 6.02x^2 + 91.4x - 180$

   (d) $0.18x^3 + 5.98x^2 + 99.4x + 180$