

HOMEWORK 3 - MATH 111

DUE DATE: Friday, October 3

INSTRUCTOR: George Voutsadakis

Read each problem very carefully before starting to solve it. Each question is worth 1 point. It is necessary to show your work. Correct answers without explanations are worth 0 points.

GOOD LUCK!!

1. The Revenue R in terms of the number of items produced is given by $R(x) = 12x$ and the cost C by $C(x) = 7x + 85$. Find the break-even point and the break-even price.
2. The supply S and the demand D in terms of the number of items q are given by $S(q) = \frac{1}{5}q + 5$ and $D(q) = -q + 47$, respectively. Find the equilibrium demand and the equilibrium price.
3. Find the number of solutions of $5x^2 - 6x + 2 = 0$.
4. Use the quadratic formula to solve $7x^2 + 2x - 3 = 0$.
5. Solve the inequality $x^2 + 4x - 18 \geq 3$.
6. Solve the inequality $\frac{x-11}{x+25} \leq 0$.
7. Find the domain of $f(x) = |5x + 9|$.
8. Find the domain of $g(x) = \sqrt{\frac{x-5}{x^2+2x-3}}$.