Section 3.5

1a) Create a revenue function. $R(x) = -1x^2 + 110x$
1b) Create a profit function. $P(x) = -1.5x^2 + 60x - 200$
1c) How many units must the company produce and sell to maximize profit? $20\ units$
1d) What is the maximum profit? $400
1e) What price per unit must be charged to make maximum profit? $90

3a) Create a revenue function. $R(x) = -0.1x^2 + 200x$
3b) Create a profit function. $P(x) = -0.3x^2 + 150x - 3000$
3c) How many units must the company produce and sell to maximize profit? $250\ units$
3d) What is the maximum profit? $15,750
3e) What price per unit must be charged to make maximum profit? $175

5a) Create a revenue function. $R(x) = -\frac{3}{2}x^2 + 150x$
5b) Create a profit function. $P(x) = -2x^2 + 136x - 500$
5c) How many units must the company produce and sell to maximize profit? $34\ units$
5d) What is the maximum profit? $1,812
5e) What price per unit must be charged to make maximum profit? $99