Algebra 2 HW 29 Word Problems

1. Eddie is organizing a charity tournament. He plans to charge a $20 entry fee for each of the 80 players. He recently decided to raise the entry fee by $5, and 5 fewer players entered with the increase. He used this information to determine how many fee increases will maximize the money raised.

A) Write a quadratic equation that models this in standard form

B) How many increases should he do? (*hint: find x*)

C) How much is he going to charge for an entry fee to maximize profit?

D) How many people will come to maximize profit?

E) What is he going to make as a maximum profit?

2. During the last Star Wars movie, approximately 45 million people in the US and Canada paid $15 to see it. The box office people estimates that 3 million fewer people will attend for every $2 increase in price.

A) Write a quadratic equation that models this situation in standard form

B) What price per ticket will maximize the income? Is this reasonable?

C) What is the maximum income for the movie?

3. A babysitting club sits for 50 different families. They would like to increase their current rate of $9.50 per hour. After surveying the families, the club finds that the number of families will decrease by 2 for each 50 cent increase.

A) Write a quadratic function for this problem

B) What hourly rate will maximize their profit?

C) What will their maximum profit be?

4. Last year, 300 people attended Skyline's winter play. The ticket price was $8. The advisor estimates that 20 fewer people will come for each $1 increase in ticket price. What should they sell each ticket for to maximize their profit?