Your plot should be “off” for Problems # 2, 5.

2. Ludwig’s Hair Salon can average 12 haircuts per hour for the 8 hours it is open. At $15.00 per haircut, Ludwig’s Hair salon gets 75 customers per day on average. For every $3.00 decrease in the price of a haircut, the Salon gains 5 more customers per day. For every $3.00 increase in the price of a haircut, the Shop loses 5 more customers per day. (7 points)

(a) Write a function to model (represent) the daily revenue (R) the Salon receives.

Let \( x \) = # of $3.00 price decreases. \( R(x) = \) _______________________________________

(b) What is the domain of \( x \)? ______________________

(c) What price should Lindsey charge in order to maximize revenue? ________________

(d) How many customers will get haircuts on an average day at that rate? ___________

(e) How much income will be realized at that price? (i.e. What is the maximum income?) _____
5. Barber's Shop can average at most 9 haircuts per hour for the 8 hours it is open. At $20.00 per haircut, Barber's Shop gets 50 customers per day on average. For every $2.00 increase in the price of a haircut, the Shop loses 11 customers per day on average. For every $2.00 decrease in the price of a haircut, the Shop gains 11 more customers per day. (7 points)

(b) Write a function to model (represent) the daily revenue (R) the Shop receives.

Let x = # of $2.00 price increases. R = 

(b) What is the domain of x? 

(c) What price should Mike charge in order to maximize revenue? 

(d) How many customers will get haircuts on an average day at that rate? 

(e) How much income will be realized at that price? (i.e. What is the maximum income?) 