Do not write your name on the assignment. Write your name only on the back of this sheet of paper and staple your answers on the front of this sheet of paper. Failure to follow these directions will cost you 1 point on the assignment.

1) (15 points) I saw a billboard recently that said the lottery would pay $\$ 66,000,000$ spread out in even payments over 20 years. Set up the calculation that shows the value to you if you win. Briefly explain what you did. Note that you will need a number that I have not given you. Tell me how you chose that number.
2) (15 points) Suppose that you are considering buying a stock that pays $\$ 1 /$ share in dividends. If you expect the dividends to grow at $3 \%$ per year, the price per share to not change, and interest rates are $5 \%$, then how much would you be willing to pay for the stock? Show all work and explain your logic.
3) ( 25 points) Fill in this table. Make sure you show the calculations.

| Q | $\mathrm{B}(\mathrm{Q})$ | $\mathrm{C}(\mathrm{Q})$ | $\mathrm{NB}(\mathrm{Q})$ | $\mathrm{MB}(\mathrm{Q})$ | $\mathrm{MC}(\mathrm{Q})$ | $\mathrm{NMB}(\mathrm{Q})$ |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 0 |  | 0 |  |  |  |  |
| 1 | 10 | 5 |  |  |  |  |
| 2 |  |  |  |  | 7 | 0 |
|  | 25 |  | 1 | 4 |  |  |

3) ( 15 points each) Illustrate the following on the supply and demand for cheese. Explain why the curve(s) moved as drawn, and what the equilibrium price and quantity are.
A) People become more concerned about heart disease.
B) The selling price of steaks increases.
C) The government puts a price ceiling on cheese.
