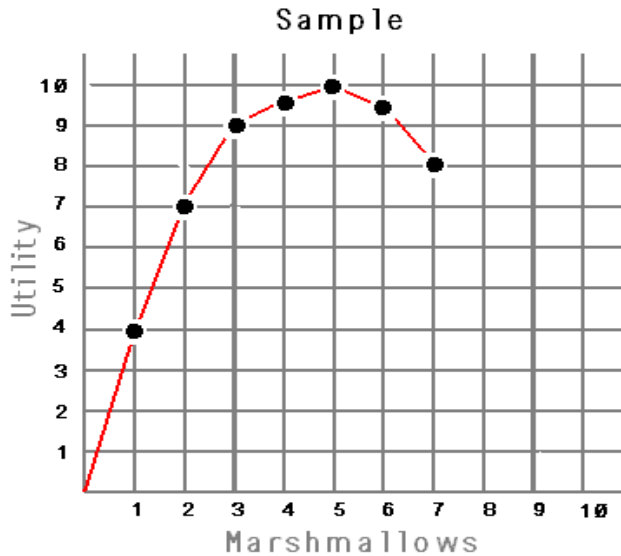
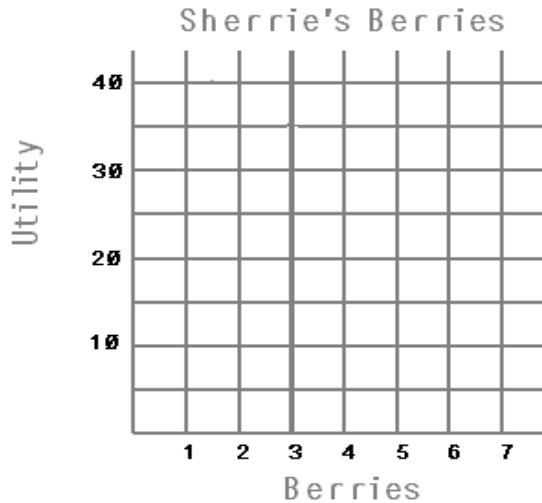


Sample I: Juan enjoys junk food, especially marshmallows. When Juan comes home from school, he grabs anywhere from 5 to 10 marshmallows in his hand as a snack. He quickly sits down to eat. When he eats the first one, Juan is often heard to say, “I can eat these all day.” After Juan eats four marshmallows, he starts to slow down. After eating six, he becomes tired of the sugar, and looks in the refrigerator for something else. If one would graph Juan’s utility, it might look like the sample below:



When economists look at Juan’s utility function, they might say that Juan’s total utility increases at a decreasing rate. This means that the first marshmallow that Juan eats gives him the most satisfaction. Each successive one gives him more satisfaction but less than the previous one. It is possible, but unlikely, that if Juan continues to eat marshmallows, his satisfaction becomes negative. One of the assumptions of utility theory is that man seeks to maximize his utility. In this case, Juan would stop at 5 marshmallows.

- Directions: In the problem below, graph Sherrie’s utility for Berries.



Quantity	Utility
0	0
1	12
2	22
3	30
4	36
5	40
6	42
7	40

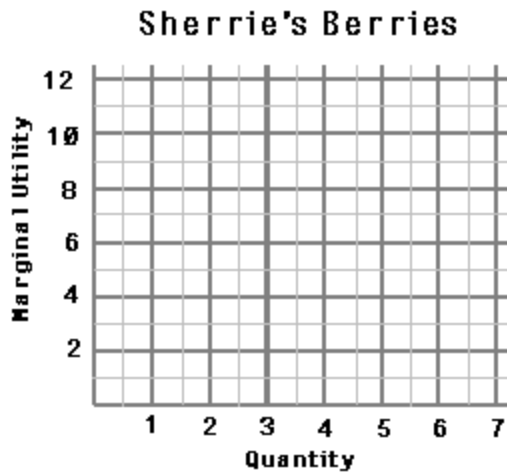
- Andy’s utility function for candy is: $U(x) = 10\sqrt{x}$. If Andy eats 64 pieces of candy, how much utility does Andy receive? _____

Sample II: Economists look at marginal utility to make economic behavior decisions. The marginal utility is calculated by finding the change in total utility divided by the change in quantity. Using Juan’s total utility for wonton in Sample 1, the graph of his marginal utility appears below.



The marginal utility curve slopes downward and to the right. This slope shows that each successive marshmallow gives less satisfaction. Does this curve look like the demand curve? It should since marginal utility is one reason why the demand curve has a negative slope. Since utility changes over the range of two integers, the marginal utility is plotted at the midpoint.

1. Plot the marginal utility for Sherrie’s Berries on the graph below.



2. Plot the marginal utility of Andy's candy utility function. Round your answer to two decimal places. (The equation for total utility was given in problem 2 above.)

