

1.5

a)

$$Y = 32 - 0.8X$$

b)

$$\text{orchid: } 640/40 = 16$$

$$\text{fern: } 640/32 = 20$$

c)

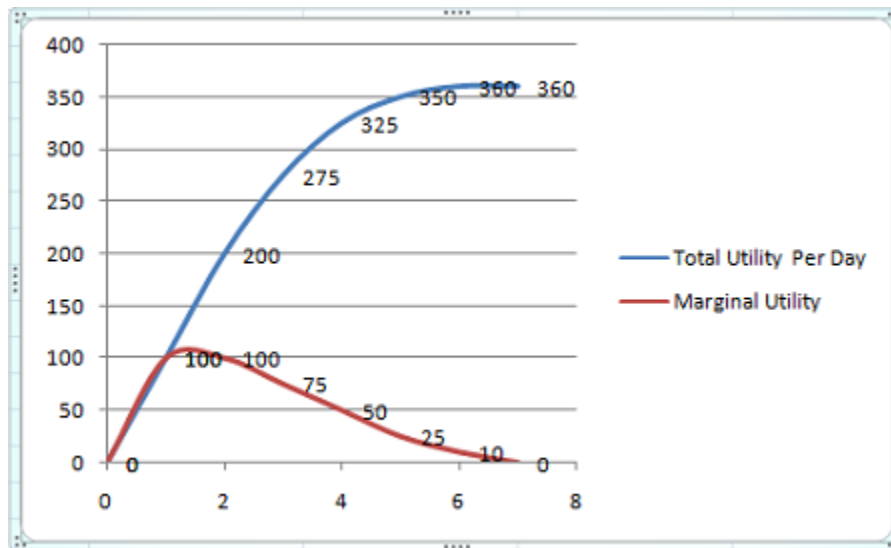
$$Y = 32 - 2X$$

d)

$$\text{orchid: } 640/16 = 40$$

$$\text{fern: } 640/32 = 20$$

2.1



What is the maximum number of cookies

If he has a good income, he will consume cookies until the marginal utility is zero. So, he will consume 6 cookies.

2.3

a)

No per month	TU	MU	MU/P	No per month	TU	MU	MU/P
1	28	28	4.67	1	150	150	5
2	46	18	3	2	270	120	4
3	62	16	2.67	3	360	90	3
4	74	12	2	4	420	60	2
5	80	6	1	5	450	30	1
6	84	4	0.67	6	470	20	0.67
7	86	2	0.33	7	480	10	0.33

b)

Yes these preferences are consistent with the law of diminishing marginal utility. As more is consumed of each good, the marginal utility of additional consumption decreases, thereby yielding less and less satisfaction

c)

To maximize total satisfaction of consumption, the marginal utility per dollar of consumption of both goods must be equal, without exceeding the total budget.

At 4 cigars and 4 brandies, marginal utility per dollar is 2 for both goods and total consumption costs 4 cigars * 6 = 24, means 120 dollars

1A.4

a)

$$100 = 5N + 10A$$

b)

while $P_n = 10$, demand of nuts = 5

while $P_n = 2$, demand of nuts = 9