

1.

A. A person's preferences are called *monotonic* when having more is better.

B. Marginal revenue is how revenue changes as the firm changes quantity. Marginal cost is how cost changes as the firm changes quantity. If these aren't the same then either the firm can increase quantity and increase revenue more than cost or can decrease quantity and decrease cost more than revenue. In either case, profit will increase.

C. If demand is inelastic, then if the monopolist decreases the quantity they sell by 1%, they can charge more than 1% more. This will increase revenue. At the same time, by decreasing quantity, they will decrease costs. This has to lead to an increase in profit. o

2.

A. Cost

B. Decreasing

C. Convex

3.

A. Constant

B. $-\frac{x_2}{x_1}$

C. -4

D. $x_1 = \frac{y}{2}, x_2 = 2y$

E. $c(y) = 4y$

4.

A. $p = \frac{1000-q}{10} = 100 - \frac{1}{10}q$

B. $\pi(q) = (100 - \frac{1}{10}q)q - 10q$

C. $q = 450, p = 55$

D. $\pi_1(q_1) = (100 - \frac{1}{10}(q_1 + q_2))q_1 - 10q_1$

E. $q_1 = \frac{1}{2}(900 - q_2)$

F. $q = 300$

G. $Q = 600, p = 40$

5.

A. $\frac{\partial(100-p)}{\partial p} \frac{p}{100-p} = -\frac{p}{100-p}$

B. $p = 20, q = 80$

C. $\frac{80*80}{2} = 3200$

D. $q = 40, p + t = 10 + 50 = 60$

E. $\frac{(100-60)*40}{2} = 800$

6.

A. L-shaped curves with kinks along the line with slope of 2 starting from the origin.

B. Budget line is a line with x_2 intercept at 40, x_1 intercept at 20 and slope -2 .

- C. Convex but not strictly.
- D. $x_1 = 10, x_2 = 20$