Elasticity Assignment #1 - Solution

1. If the price elasticity of demand is 3.14, the price elasticity of demand is **elastic**, inelastic or unit elastic (circle one)

2. If the price elasticity of demand is 0.314, the price elasticity of demand is elastic, **inelastic** or unit elastic (circle one)

3. If the price elasticity of demand is 1.0000000000000000001, the price elasticity of demand is **elastic**, inelastic or unit elastic (circle one)

4. If a seller is considering a price change and the change in the quantity demanded is 17.15% and the change in the price is 15.17%, what should the seller do?

   a. Raise the price
   b. Lower the price
   c. Keep the price the same

   $$\frac{\%\ Chg\ Q_D}{\%\ Chg\ P} = \frac{17.15}{15.17} = 1.13 = \text{elastic}$$

5. If a seller is considering a price change and the change in the quantity demanded is 15.17% and the change in the price is 17.15%, what should the seller do?

   d. Raise the price
   e. Lower the price
   f. Keep the price the same

   $$\frac{\%\ Chg\ Q_D}{\%\ Chg\ P} = \frac{15.17}{17.15} = 0.88 = \text{inelastic}$$

6. If the price elasticity of demand is 6 and the seller raises the price, what happens to total revenue?

   a. Total revenue increases
   b. Total revenue decreases
   c. Total revenue stays the same

7. If Apple sells the iPhone for $999 they sell 50m phones.
If Apple lowers the price to $799 they sell 55m phones.
If Apple raises the price to $1199 they sell 45m phones.

How much revenue does Apple make if the phones are priced at ***$799***?

Total Revenue = price * quantity = $799 * 55m = $43.9B

How much revenue does Apple make if the phones are priced at ***$999***?

Total Revenue = price * quantity = $999 * 50m = $49.9B

How much revenue does Apple make if the phones are priced at ***$1199***?

Total Revenue = price * quantity = $1199 * 45m = $53.9B

Is the price elasticity of demand for the iPhone elastic, inelastic or unit elastic?

% change quantity demanded / % change in price = 10%/20% = 0.5 < 1

What price should Apple charge for the iPhone: $799, $999, **1199**?