Math Practice
Activity 3: Determining Elasticity of Demand

Work through the following activity, considering concepts from the text.

The elasticity of demand is determined as follows:

elasticity of demand $=$ $\dfrac{\text{percent change in quantity demanded}}{\text{percent change in price}}$

When elasticity equals one, the demand is unitary elastic—the percentage change in the quantity demanded is exactly equal to the percentage change in price. When elasticity is less than one, the demand is inelastic, or not sensitive to a change in price. When elasticity is greater than one, the demand is elastic, or sensitive to a change in price. To simplify the discussion of elasticity of demand, it is always expressed as a positive value.

For each scenario below, complete the following steps:

(a) Compute the elasticity of demand for each good or service described.

(b) Classify the elasticity of demand as unitary elastic, inelastic, or elastic.

(c) Indicate whether the good or service is considered a luxury or a necessity, whether there are substitutes available in the short term, and how relative importance of the good or service might affect a consumer's willingness to accommodate a price change.

1. An increase in the price of orange juice from $2.39/half gallon to $2.45/half gallon is accompanied by a 2.5 percent decrease in sales.

2. An increase in the price of gasoline from $0.99/gallon to $1.39/gallon is accompanied by a decrease in sales of 0.5 percent.

3. A decrease in the price of a taco from $2.35 to $1.99 causes an increase of sales from 1,225 tacos to 1,550 tacos.

4. The price of a haircut in an exclusive shop increases by 12 percent, causing the number of haircuts to decrease from 40 per day to 27 per day.