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## 1.6.1 Exploratory Quiz: Elastic vs. Inelastic

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When we compared the absolute value of elasticities for the 50 to 75 cent change, we made statements like "Demand in Boston was more elastic than demand in New York" to capture the fact that demand was more sensitive to price changes in Boston for that change in price.

Qualitatively, we say that demand is **elastic** if a given change in price results in a large change in demand. Demand is **inelastic** if that change in price results in a relatively small change in demand.

Economists make this more precise by comparing the absolute value of elasticity to 1.

Demand is **elastic** (more sensitive to changes in price) if elasticity is greater than 1 in absolute value.

What does this mean? Elasticity that is greater than 1 in absolute value means the percent change in demand will be greater than the percent change in price. For example, this means that a 1% change in price will cause a change in demand greater than 1%. More generally, a change of  $c\%$  in price will cause a change in demand greater than  $c\%$ .

In other words, elasticity greater than 1 means that demand will change more drastically in terms of percent change than the given change in price. This suggests that the demand is MORE sensitive to price changes, and so economists use the term **elastic** to capture the flexibility of demand. A small "pull" in price leads to a big "stretch" of the the rubber band of demand.

Demand is **inelastic** (less sensitive to changes in price) if elasticity is less than 1 in absolute value.

### Question 1: Think About It...

1/1 point (graded)

Explain why economists say that demand for a good is inelastic if elasticity is less than 1 in absolute value.

Note: At this time, the text entry box for reflective questions does not support the percent symbol "%" - please type out the word "percent" if you need to refer to percents.

Since demand changes less drastically in terms of percent change than the given change in price.



Thank you for your response.

Submit

✓ Correct (1/1 point)

## Question 2

1/1 point (graded)

Which of the following goods would you expect to have **inelastic** demand?

☐ A. Candy

☒ B. Fuel ✓

☒ C. Housing ✓

☐ D. Music

☐ E. Wine

☒ F. Health care ✓



### Explanation

When a good has elastic demand, people tend to buy much more when it's cheap and much less when it's expensive.

Goods like candy, music, and (in most places) wine are luxuries. If their price goes up people will stop buying them, so demand for these goods is elastic.

Goods like fuel, housing, health care are inelastic; people can't easily stop buying them when their price increases. So demand for these goods is inelastic.

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**i** Answers are displayed within the problem

## Question 3

1/1 point (graded)

Suppose a company has the freedom to change prices and wants to maximize revenue. If demand is **inelastic**, which makes the most sense in order to increase revenue? Choose the best answer.

- ☒ Raise prices. If demand is inelastic, demand changes by a smaller percent than the price changes. If we raise prices, we'll lose only a relatively small amount of sales, and those who do buy the good will pay more. So we expect revenue to increase. ✓
- ☐ Lower prices. If demand is inelastic, demand changes by a larger percent than the price changes. If we lower prices, those who do buy the good will be paying less but the number of sales will increase even more. So we expect the total revenue to increase.
- ☐ Keep the prices the same. If demand is inelastic, demand changes by a smaller percent than the price changes. So whatever the change in price, the effect on demand will be small and only mean that revenue will decrease.

### Explanation

Revenue is affected by both the price we charge and the number of goods we sell. In the MBTA case, for example, this is the fare price and the number of rides.

If demand is inelastic, this means demand changes by a smaller percent than the price changes. Loosely, this means that customers will not react as much to a change in price. For this reason, we might think it makes sense to raise prices to increase revenue; since those who do buy the good will be paying more and we'd only lose a relatively small amount of sales, in the balance we might expect revenue to increase.

On the other hand, if demand is elastic, this means demand changes by a larger percent than the price changes. Loosely, this means that customers will react rather strongly to a change in price. For this reason, we might think it makes sense to decrease prices to increase revenue; though the price of each good sold will be less, we expect the number of people buying the good to increase, so in the balance we might hope revenue to increase.

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**i** Answers are displayed within the problem

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