## Self-Check Questions

[1](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-5#fs-idp16086976-solution).

From the data in [Table 5.5](#Table_05_02) about demand for smart phones, calculate the price elasticity of demand from: point B to point C, point D to point E, and point G to point H. Classify the elasticity at each point as elastic, inelastic, or unit elastic.

|  |  |  |
| --- | --- | --- |
| Points | P | Q |
| A | 60 | 3,000 |
| B | 70 | 2,800 |
| C | 80 | 2,600 |
| D | 90 | 2,400 |
| E | 100 | 2,200 |
| F | 110 | 2,000 |
| G | 120 | 1,800 |
| H | 130 | 1,600 |

Table 5.5

[2](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-5#fs-idm14629328-solution).

From the data in [Table 5.6](#Table_05_03) about supply of alarm clocks, calculate the price elasticity of supply from: point J to point K, point L to point M, and point N to point P. Classify the elasticity at each point as elastic, inelastic, or unit elastic.

|  |  |  |
| --- | --- | --- |
| Point | Price | Quantity Supplied |
| J | $8 | 50 |
| K | $9 | 70 |
| L | $10 | 80 |
| M | $11 | 88 |
| N | $12 | 95 |
| P | $13 | 100 |

Table 5.6

[3](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-5#fs-idp21610480-solution).

Why is the demand curve with constant unitary elasticity concave?

[4](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-5#fs-idp15543856-solution).

Why is the supply curve with constant unitary elasticity a straight line?

[5](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-5#fs-idp52211440-solution).

The federal government decides to require that automobile manufacturers install new anti-pollution equipment that costs $2,000 per car. Under what conditions can carmakers pass almost all of this cost along to car buyers? Under what conditions can carmakers pass very little of this cost along to car buyers?

[6](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-5#fs-idp1495344-solution).

Suppose you are in charge of sales at a pharmaceutical company, and your firm has a new drug that causes bald men to grow hair. Assume that the company wants to earn as much revenue as possible from this drug. If the elasticity of demand for your company’s product at the current price is 1.4, would you advise the company to raise the price, lower the price, or to keep the price the same? What if the elasticity were 0.6? What if it were 1? Explain your answer.

[7](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-5#fs-idp34138144-solution).

What would the gasoline price elasticity of supply mean to UPS or FedEx?

[8](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-5#fs-idp23662496-solution).

The average annual income rises from $25,000 to $38,000, and the quantity of bread consumed in a year by the average person falls from 30 loaves to 22 loaves. What is the income elasticity of bread consumption? Is bread a normal or an inferior good?

[9](http://openstax.org/books/principles-microeconomics-3e/pages/chapter-5#fs-idp23027184-solution).

Suppose the cross-price elasticity of apples with respect to the price of oranges is 0.4, and the price of oranges falls by 3%. What will happen to the demand for apples?