

Elasticity

Practice Answers

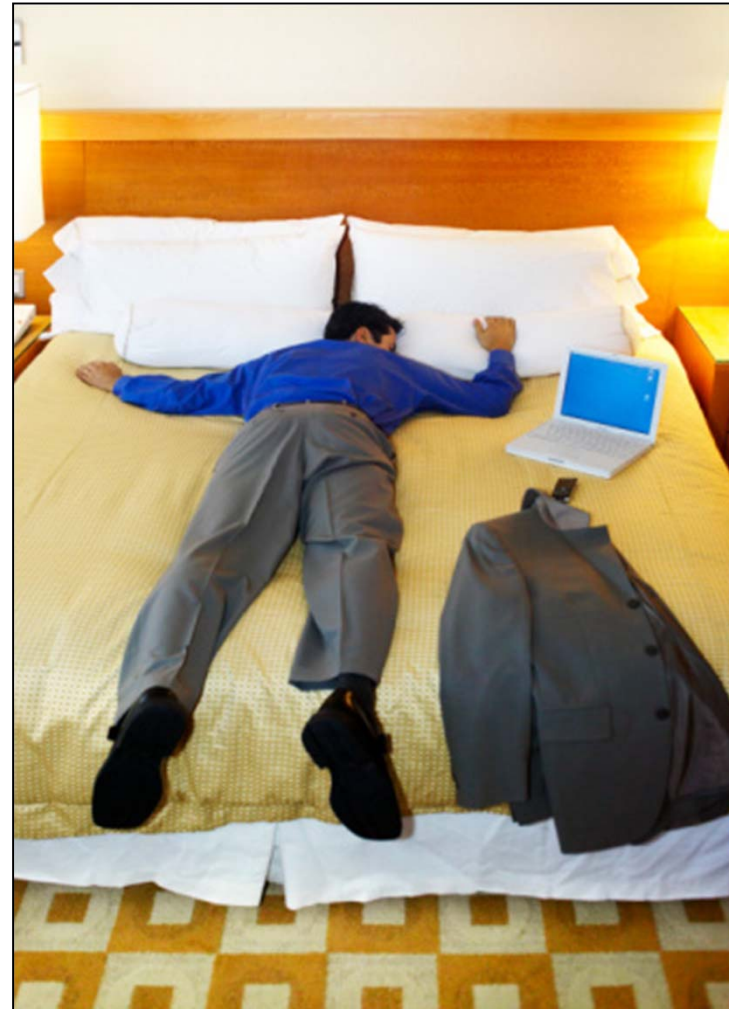
ACTIVE LEARNING 1

Calculate an elasticity

Use the following information to calculate the price elasticity of demand for hotel rooms:

if $P = \$70$, $Q^d = 5000$

if $P = \$90$, $Q^d = 3000$



ACTIVE LEARNING 1

Answers

Use midpoint method to calculate
% change in Q^d

$$(5000 - 3000)/4000 = 50\%$$

% change in P

$$(\$90 - \$70)/\$80 = 25\%$$

The price elasticity of demand equals

$$\frac{50\%}{25\%} = 2.0$$

ACTIVE LEARNING 2

Elasticity and expenditure/revenue

- A.** Pharmacies raise the price of insulin by 10%. Does total expenditure on insulin rise or fall?

- B.** As a result of a fare war, the price of a luxury cruise falls 20%. Does luxury cruise companies' total revenue rise or fall?

ACTIVE LEARNING 2

Answers

- A.** Pharmacies raise the price of insulin by 10%. Does total expenditure on insulin rise or fall?

$$\text{Expenditure} = P \times Q$$

Since demand is inelastic, **Q** will fall less than 10%, so **expenditure rises**.

ACTIVE LEARNING 2

Answers

- B.** As a result of a fare war, the price of a luxury cruise falls 20%. Does luxury cruise companies' total revenue rise or fall?

$$\text{Revenue} = P \times Q$$

The fall in P reduces revenue, but Q increases, which increases revenue. Which effect is bigger?

Since demand is elastic, Q will increase more than 20%, so **revenue rises**.

ACTIVE LEARNING 3

Elasticity and changes in equilibrium

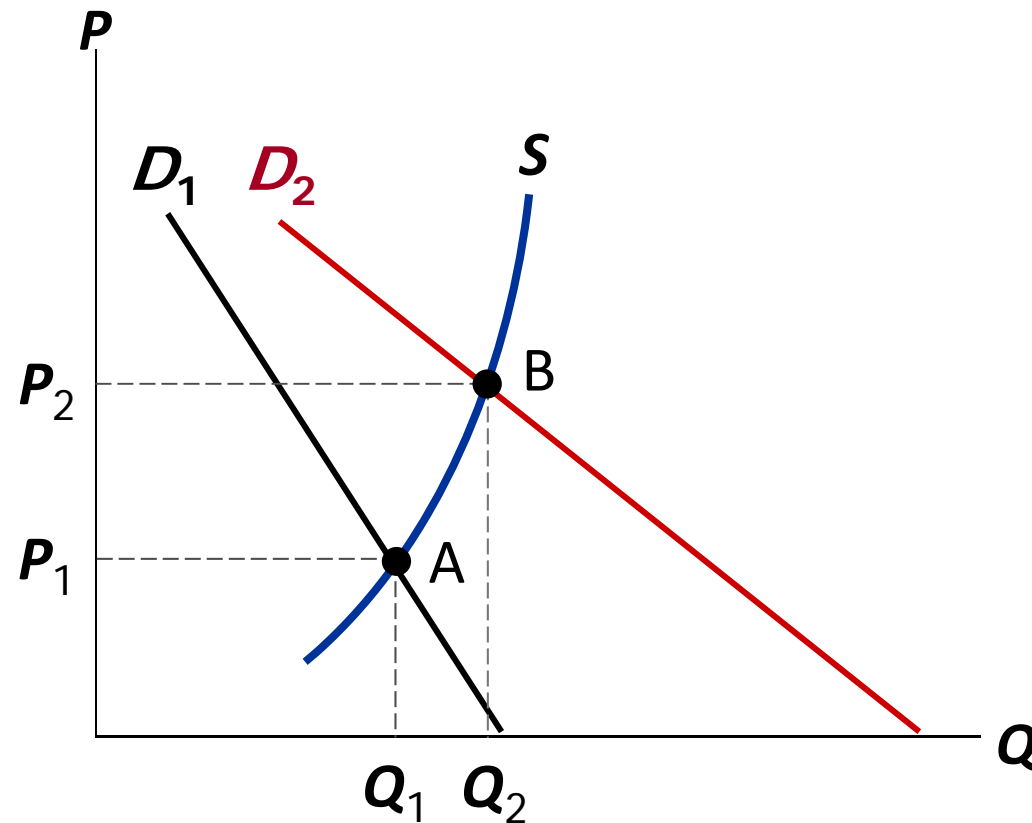
- The supply of beachfront property is inelastic. The supply of new cars is elastic.
- Suppose population growth causes demand for both goods to double (at each price, Q^d doubles).
- For which product will P change the most?
- For which product will Q change the most?

ACTIVE LEARNING 3

Answers

When supply is *inelastic*, an increase in demand has a bigger impact on price than on quantity.

Beachfront property
(inelastic supply):



ACTIVE LEARNING 3

Answers

When supply is *elastic*, an increase in demand has a bigger impact on quantity than on price.

New cars
(elastic supply):

