AP MICROECONOMICS • EXERCISE SHEET

2.4 Price Elasticity of Supply

Name: _____ Class: _____ Date: _____ **Total: 9 marks**

Objective

Build the skills to answer exam questions on **price elasticity of supply**.

You must be able to:

- define **price elasticity of supply (PES)** 供给价格弹性
- calculate PES using the **midpoint (arc) method**
- classify supply as elastic, inelastic, unit, **perfectly elastic**, or **perfectly inelastic**
- explain how the **time horizon** and spare capacity affect PES

1 Worked examples

Study these first. Each one shows the method for a question type used later.

PES

$$\text{PES} = \frac{\%\Delta Q_s}{\%\Delta P},$$

using the midpoint method.

Classification

>1 elastic; <1 inelastic; $=1$ unit. A **perfectly inelastic** supply is **vertical** (PES $= 0$); a **perfectly elastic** supply is horizontal.

What makes supply elastic

A longer **time horizon** and more **spare capacity** make supply more elastic —firms can adjust output more.

2 Practice

2.1 Define price elasticity of supply. [1]

2.2 Price rises from \$8 to \$12 and quantity supplied rises from 40 to 60. Find the PES

(midpoint method). [2]

2.3 State how a longer time horizon affects PES. [1]

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3 Exam-style questions

3.1 Supply is elastic when PES is [1]

- **A** less than 1
- **B** equal to 1
- **C** greater than 1
- **D** zero

3.2 A perfectly inelastic supply curve is [1]

- **A** horizontal
- **B** vertical
- **C** upward-sloping
- **D** downward-sloping

3.3 A farm can quickly grow more output using its spare land.

(a) State whether its supply is likely elastic or inelastic. [1]

(b) State one factor that makes supply more elastic. [1]

(c) State the PES of a vertical (fixed-quantity) supply curve. [1]

4 Go further

- work through the **2.4 Price Elasticity of Supply** lesson on the **Learn** page;

- read the **Supply and Demand** section of the AP Microeconomics handout on the **Know** page.

Solutions

2.1 the responsiveness of quantity supplied to a change in price.

2.2 $\%\Delta Q = \dfrac{20}{50} = 40\%$; $\%\Delta P = \dfrac{4}{10} = 40\%$; $\text{PES} = \dfrac{40}{40} = 1$ (unit elastic).

2.3 it makes supply more elastic.

3.1 **C**.

3.2 **B**.

3.3 (a) elastic. (b) a longer time horizon or more spare capacity (any one). (c) zero.