

SAMPLE PAPER 4: PAPER 1

QUESTION 9 (50 MARKS)

Question 9 (a)

$$S = 2200 - 2p \geq 0$$

$$D = 4p - 320 \geq 0$$

$$2200 \geq 2p$$

$$4p \geq 320$$

$$1100 \geq p$$

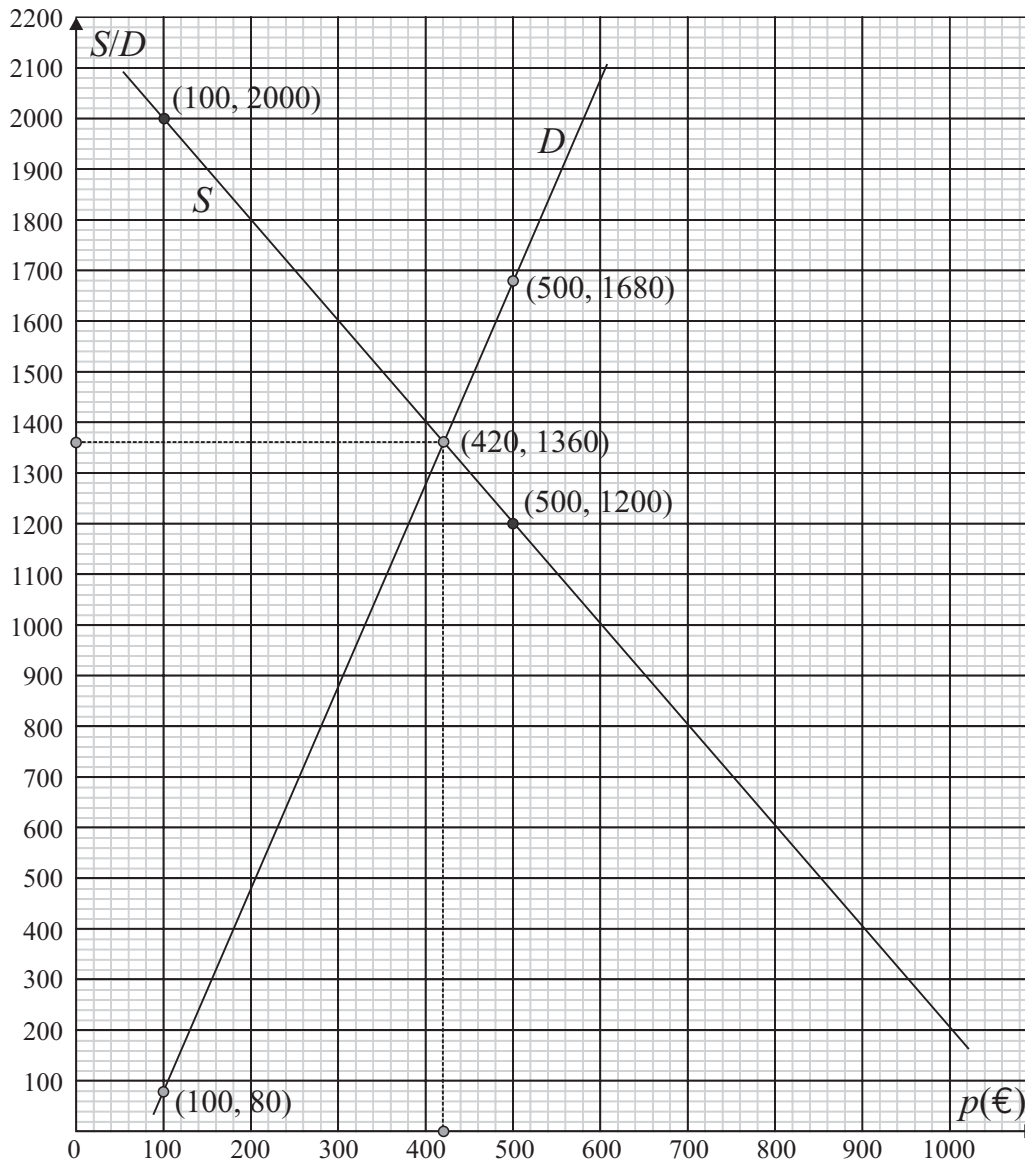
$$p \geq 80$$

$$\therefore p \leq 1100$$

Price range: €80 ≤ p ≤ €1100

Question 9 (b)

<i>p</i> (€)	100	500
<i>S</i>	2000	1200
<i>D</i>	80	1680



Question 9 (c)

ALGEBRA

$$S = D$$

$$2200 - 2p = 4p - 320$$

$$2200 + 320 = 6p$$

$$2520 = 6p$$

$$\therefore p = \text{€}420$$

GRAPH

The supply and demand lines on the graph intersect at $p = \text{€}420$.

This is the equilibrium point.

Question 9 (d)

ALGEBRA

$$p = \text{€}420 : S = 2200 - 2p = 2200 - 2(420) = 1360$$

$$p = \text{€}420 : D = 4p - 320 = 4(420) - 320 = 1360$$

GRAPH

According to the graphs, the number of items supplied and demanded at $p = \text{€}420$ is 1,360 items.

Question 9 (e)

$S > D$: Manufacturers will have warehouses filled with items that consumers won't buy.

$S < D$: Stores will have empty shelves and unhappy customers asking for the product.

Question 9 (f)

$$S = 40 - 2p^2$$

$$D = 8p - 2$$

$$S = D \Rightarrow 40 - 2p^2 = 8p - 2$$

$$0 = 2p^2 + 8p - 42$$

$$0 = p^2 + 4p - 21$$

$$0 = (p - 3)(p + 7)$$

$$\therefore p = \text{€}3$$
