Solutions

Marking: **M1** a correct method, **A1** the correct answer, **B1** an independent mark.

Each answer shows the steps, then the **result**.

2.1

specific tax: a fixed amount per unit, e.g. \$1 per litre; supply shifts up in parallel; ad valorem: a percentage of the price, e.g. 20% VAT; the gap grows at higher prices

2.2

any two: to lower prices for consumers, e.g. basic food; to support producers' incomes, e.g. farmers; to increase output of goods with positive externalities, e.g. solar energy, vaccines; to help a new industry compete

2.3

diagram with a maximum price below equilibrium and the shortage Q_s to Q_d shown; quantity demanded rises and quantity supplied falls, giving a shortage of flats; any two consequences: long waiting lists / queues; illegal "key money" or black markets; landlords spend less on repairs, so quality falls; some flats move to other uses, so supply falls further in the long run

2.4

$100 - 5P = -20 + 5P$, so $P = \$\mathbf{12}$, $Q = \mathbf{40}$; at \$10: $Q_d = 50$, $Q_s = 30$; shortage = **20** units

2.5

new supply: $Q_s = -20 + 5(P - 2) = -30 + 5P$; $100 - 5P = -30 + 5P$, so $P_c = \$\mathbf{13}$, $Q = 35$; producers receive $13 - 2 = \$\mathbf{11}$; tax revenue $= 2 \times 35 = \$\mathbf{70}$

3.1

(a) gains: wheat farmers (higher price and income); loses: consumers (pay more) / taxpayers

(b) diagram: minimum price above equilibrium, surplus between Q_d and Q_s; higher price lowers quantity demanded and raises quantity supplied; to keep the price up, the government must buy the surplus, at a cost of minimum price × surplus; storage costs, waste, or selling abroad cheaply (dumping), which hurts foreign farmers; resources are over-allocated to wheat: allocative inefficiency / welfare loss

3.2

diagram: steep (inelastic) demand, supply shifts up by the tax per unit, P_c and P_p marked; price rises by almost the full tax, quantity falls only a little; the consumer share $(P_c - P_e) \times Q$ is much larger than the producer share $(P_e - P_p) \times Q$; because buyers have few substitutes, firms can pass the tax on

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