

Solutions

2.1 Tax per item=consumer price–producer receipt=12–9=3 currency units/item. Consumer burden=12–10=2 units/item; producer burden=10–9=1 unit/item. The stated burden split concerns this equilibrium, not a universal tax rule. Tax revenue=tax per item×post-tax quantity; that quantity must be known. Revenue is a transfer, while welfare effects require changes in surplus, resource use and any external harm. A corrective tax can reduce inefficient overproduction, but only with the relevant external-cost model and evidence. Collection cost, evasion and access matter. Authored points for method, application and relevant qualification.

3.1 Greater output can increase external harm even if consumers and producers gain privately. Identify marginal social/private costs and the efficient versus market quantity before judging. A targeted charge or standard may address the harm more directly, subject to measurement, enforcement and distribution. A subsidy for a cleaner alternative might help through a different mechanism; its fiscal and behavioural effects still need evaluation. IGCSE pupils use the supported private/external/social distinction; detailed marginal welfare geometry belongs only where the course's mapped outcomes authorize it. Authored points for judgement, case-linked reasoning and justified qualification. Accept supported alternatives.

3.2 The firm pays 1.50 GBP on each night journey. The fee rises from 4.20 GBP to 5.40 GBP, so customers pay 1.20 GBP more and the firm absorbs 0.30 GBP on each journey that still runs. Journeys fall from 420 to 310, about 26%, which can cut the firm's fuel use and how often neighbours hear a scooter. Complaints fall from 36 to 22, about 39%. Reported harm falls by a larger percentage than the cut in trips. That does not show that every remaining journey is quieter. AO1 for the surcharge and the three changes. AO2 for using 420, 310, 36, 22 and the 1.20 GBP gap. AO3 for the linked effects on the firm and on neighbours, including the limit on what the complaint fall shows. No keep-or-ban verdict is required.

3.3 The surcharge leaves 310 journeys and is associated with complaints falling from 36 to 22, so some night access remains while reported noise falls. A ban after 22:00 could cut the remaining complaints further, but 64 of the 120 surveyed late workers missed a delivery, so a ban removes a service those workers use. For this town, the surcharge is the better first step if some noise reduction with some access is the aim. A ban fits better if the remaining 22 complaints are unacceptable and late workers have another way to receive goods. AO1 for both policies. AO2 for 310, 36, 22 and 64 of 120. AO3 for the access-versus-noise comparison. AO4 for a limited judgement that is not claimed for every town. Accept the opposite judgement if the same figures and the survey limit are used.

3.4 Use at least the journey and complaint changes, and the fee gap or the survey. Neighbours can gain from fewer night trips. The firm loses volume but still runs 310 journeys, and it does not pass on the whole 1.50 GBP. A ban could target the remaining complaints and would hit late workers; 64 of 120 is not 64 of every resident, because only late workers were asked. Keep the surcharge if Harbour Lane accepts 22 complaints in exchange for some night access. Prefer a tighter rule if those complaints are still the problem, or if late workers are a much larger share of the town than this survey shows. AO1 for surcharge, ban and external noise. AO2 for at least two table figures and the

survey denominator. AO3 for one chain each for neighbours and for late workers or the firm. AO4 for a final judgement with an explicit reversing condition. A list of points with no condition stays below the top band. Accept a supported judgement either way.