Question 1

10 points \((5 + 1 + 2 + 2)\)

(a) 5 points:

(i) 3 points:
- One point is earned for a correctly labeled downward-sloping demand curve and a downward-sloping marginal revenue curve below the demand curve.
- One point is earned for identifying the profit-maximizing quantity, \(Q_m\), at \(MR = MC\).
- One point is earned for identifying price, \(P_m\), above \(Q_m\) on the demand curve.

(ii) 1 point:
- One point is earned for shading the area of economic loss.

(iii) 1 point:
- One point is earned for identifying the allocatively efficient quantity, \(Q_e\), at \(MC = D\).

(b) 1 point:
- One point is earned for stating that the total revenue would decrease because the demand is price elastic in that range of the demand curve where \(MR > 0\).

(c) 2 points:
- One point is earned for stating that the quantity will increase because the subsidy will cause the MC curve to shift downward and intersect the MR curve at a larger quantity.
- One point is earned for stating that the consumer surplus will increase.

(d) 2 points:
- One point is earned for stating that the deadweight loss will not change because the lump-sum subsidy does not change the profit-maximizing quantity.
- One point is earned for stating that economic losses will decrease.
Question 2

6 points (3 + 1 + 1 + 1)

(a) 3 points:
• One point is earned for determining the total utility, which is 24.
• One point is earned for stating that three bagels and five toy cars will be purchased.
• One point is earned for explaining that with this combination of bagels and toys, the marginal utility per dollar spent on bagels equals the marginal utility per dollar spent on toy cars.

(b) 1 point:
• One point is earned for stating that Theresa’s demand for bagels will not change because the increase in the price of wheat will affect the supply of bagels, not the demand.

(c) 1 point:
• One point is earned for stating that bagels are inferior goods.

(d) 1 point:
• One point is earned for calculating the cross-price elasticity for toy cars and blocks:
  \[-0.04/0.10 = -0.4\]
Question 3

5 points \((1 + 3 + 1)\)

(a) 1 point:
- One point is earned for stating that Loriland is importing 12 million pounds.

(b) 3 points:
- One point is earned for identifying the new level of domestic production as 6 million pounds.
- One point is earned for calculating the domestic consumer surplus as $25 million and showing the work: \(\frac{1}{2} \times [(9 - 4) \times 10] = 25\)
- One point is earned for calculating the revenue from the tariff as $8 million and showing the work: \((4 - 2) \times (10 - 6) = 8\).

(c) 1 point:
- One point is earned for identifying the per-unit tariff that maximizes the sum of consumer and producer surplus as $0.