Lecture 11 Worksheet (ECON211), AY 2025-26 [Date: 12 Aug 2025]

1. Divide $P(x) = x^3 - 6x^2 + 11x - 6$ by $Q(x) = x - 3$.

2. The demand for *Sugar Moon Bakery* bacon brioche on weekdays is given by $P^D = 10 - 4Q^D$ and the supply is given by $P^S = Q^S + 5$. The demand, on weekends, go up and is given by $P^D = 40 - 4Q^D$; the supply remains unchanged. Illustrate the new equilibrium price and quantity graphically.

3. Find the inverse of the function:

$$f(x) = \frac{2x+3}{x-1}, \quad x \neq 1$$

4. Find the limit: $\lim_{x \to 2} \frac{x^2 - 4}{x - 2}$.