Lecture 19 Worksheet (ECON211), AY 2025-26 [Date: 09 Sep 2025]

1. The demand for $\it Campa\ Cola$ is $\it q=4-p$ and the supply is given by $\it q=p-2$. Compute the consumer and produce surplus.	
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2. Fi	and the degree of homogeneity for the following functions: (i) $f(x,y) = 5x + 5y$, (ii) $f(x,y) = x^{\alpha}y^{\beta}$.

3. Find the domain for the following functions:

$$\text{(i) } f(x,y) = x^2 + xy, \text{(ii) } f(x,y) = \sqrt{x-2} + y, \text{(iii) } f(x,y) = \frac{1}{5-x} + \frac{1}{y-5}.$$

4. Find all first and second order partial derivatives for the following functions
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(i)
$$f(x,y)=x^2y^3$$
, (ii) $f(x,y)=x+\dfrac{x}{y-1}$