Seminar 3.

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1 Jehle & Reny 2.3

Derive the consumers direct utility function if his indirect utility function has the form $v(p,y) = yp_1^{\alpha}p_2^{\beta}$ for negative α and β.

2 Jehle & Reny 2.5(a)

Consider the solution, $e(p,u) = up_1^{\alpha_1}p_2^{\alpha_2}p_3^{\alpha_3}$ at the end of Example 2.3. Derive the indirect utility function through the relation $e(p,v(p,y)) = y$ and verify Roy's identity.

3 Jehle & Reny 2.7

Derive the consumer's **inverse** demand functions, $p_1(x_1,x_2)$ and $p_2(x_1,x_2)$, when the utility function is of the Cobb-Douglas form, $u(x_1,x_2) = Ax_1^{\alpha}x_2^{1-\alpha}$ for $0 < \alpha < 1$.