

1. (a) Show that Euler's Theorem hold for a *constant returns to scale (CRTS)* production function $F(x_1, x_2)$ with two factors of production x_1 and x_2 .
(b) Interpret the results keeping in mind that the factors are paid their marginal products.
2. Show that the Euler's theorem holds for a Cobb-Douglas production function $Y = F(x_1, x_2) = (x_1)^{\frac{1}{4}}(x_2)^{\frac{3}{4}}$. *Hint: You have to show that $F_{x_1}x_1 + F_{x_2}x_2 = F(x_1, x_2)$*