Answer on Question #73963 -Economics - Microeconomics

A firm has determined that it can produce 100 units of output with any of the following input combinations:

Capital Labor 20 1 16 2 12 3 11 4 9 6 7 9 5 13

a. What is the marginal rate of technical substitution between 3 and 4 units of labor? what is it between 5 and 7 units of capital?

b. can the marginal product of labor be determined from this data ? Explain

c. Assuming there are constant return to scale, what output rate will be produced if capital is 24 and labor is 6 ?

Answer.

a)

$$MRTS = \frac{11-12}{4-3} = -1$$

$$MRTS = \frac{5-7}{13-9} = -0.5$$

b) No, it cannot, because total product is constant (equals to 100)

c) 200 units, because inputs are twice more than (12;3) needed to produce 100 units.