

EXPLANATION

The first step is to identify the variables and their relationships. In this case, the variables are the number of hours worked (H) and the number of units produced (U). The relationship between H and U is given by the production function $U = 10H - 0.5H^2$. This is a downward-opening parabola, which means that the marginal product of labor (MP_L) is initially increasing and then decreasing. The MP_L is the derivative of the production function with respect to H, which is $MP_L = 10 - H$. This is a straight line with a negative slope, indicating that the marginal product of labor is decreasing as the number of hours worked increases.

Hours Worked (H)	Units Produced (U)	Marginal Product of Labor (MP _L)
0	0	10
1	9.5	9
2	8	8
3	5.5	7
4	2	6
5	-1.5	5
6	-4	4
7	-5.5	3
8	-6	2
9	-5.5	1
10	-4	0

As you can see from the table, the marginal product of labor is positive for the first 10 hours of work, and then it becomes negative. This means that the production function is concave to the origin, and the marginal product of labor is decreasing.

KINGSTON



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