**2.*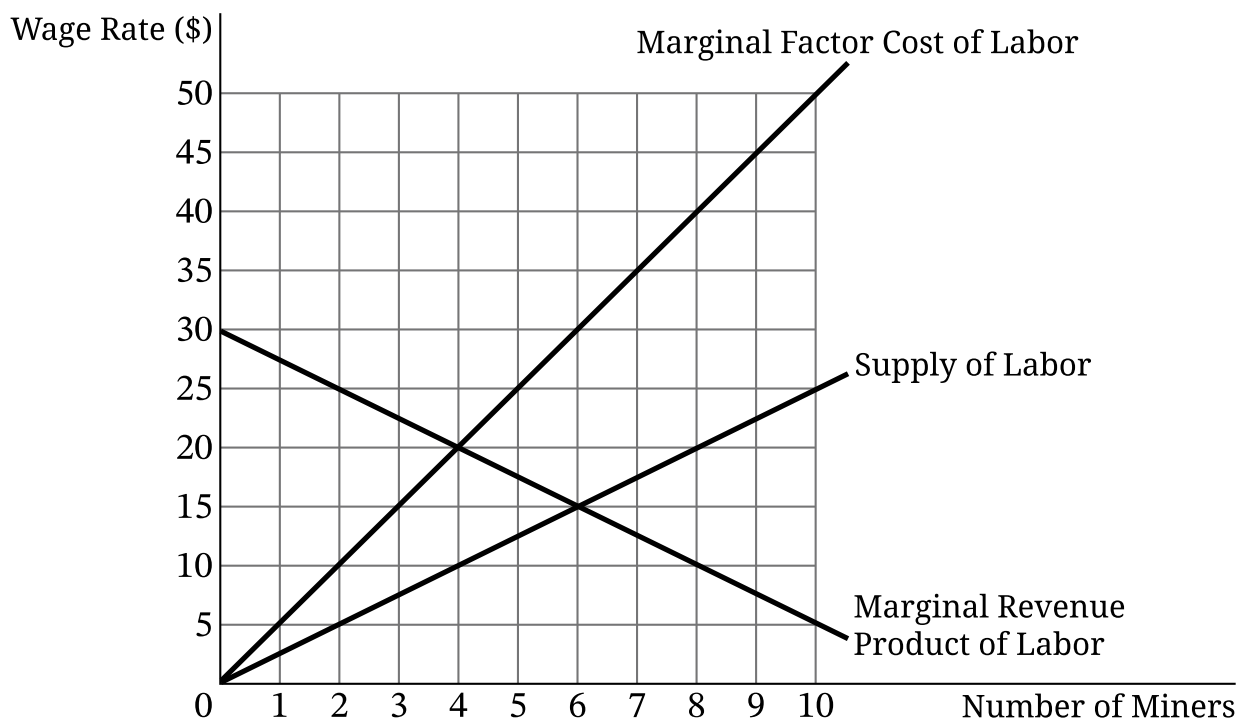* Quartz Excavations is a profit-maximizing firm and the only employer of miners of quartz in a small town. The graph provided shows the labor market for miners.

A. Identify Quartz Excavations' profit-maximizing number of miners to hire.

B. Will Quartz Excavations pay its profit-maximizing number of miners a wage rate that is equal to $15, greater than $15, or less than $15? Explain using numbers.

C. Suppose the government sets a minimum wage (a price floor on wages) at $25. Calculate the total wage bill for Quartz Excavations at the resulting profit-maximizing number of miners. Show your work.

D. Suppose that instead of a minimum wage, there is now an increase in the demand for quartz.

   i. Will the marginal revenue product of miners increase, decrease, or remain the same? Explain.

   ii. After the demand for quartz increases, Quartz Excavations hires the new profit-maximizing number of miners. Will the marginal factor cost of the last miner hired be greater than, less than, or equal to the marginal factor cost of the last miner hired before the demand for quartz increased?