Substitution methods

Business

Since two variables are being considered in the question, the langrage and substitution methods cannot be used. This is because; once the substitution method is applied, the constraint gets eliminated as well as one variable. On the other hand, using the langrage would introduce additional variables while treating the constraint explicitly. This would thus render to additional unnecessary variables in the equation, hence altering the overall cost.

When the price of input for a given commodity changes, the cost- minimizing expansion path will also change and the cost curves located on the path will shift. The ratio of the input prices gets altered and a new expansion path will be derived. In addition, the firms cost minimizing choice of inputs will become affected. The increase in the price of one input will lead to a decrease in the supply of that commodity. An increase in the price of output must increase the total cost regardless of the output level.

The average cost also increases. Since the goods are complementary, the increase in price of one input will affect the final total output. Therefore, the total output, will decline with increase in the price of either of the inputs. Therefore, the cost of the commodities will rise in the market since the demand will exceed the supply. Eventually, the firm may decide to use more of the other input to minimize costs.

The forces in the market push the firm into equilibrium.