Q 27. At the market price of Rs 10, a firm supplies 4 units of output. The market price increases to Rs 30. The price elasticity of the firm's supply is 1.25. What quantity will the firm supply at the new price?

Ans: Initial Price, P_1 = Rs 10

Initial Output, Q_1 = 4 units

Final Price, P_2 = Rs 30

$\Delta P = P_2 - P_1$

= Rs 30 – 10 = Rs 20

Elasticity of supply, e_s = 1.25

$e_s = \dfrac{\Delta Q}{\Delta P} \times \dfrac{P_1}{Q_1}$

$1.25 = \dfrac{\Delta Q}{20} \times \dfrac{10}{4}$

$= 1.25 \times 8 = \Delta Q$

$= \Delta Q = 10$ units

Thus final output supplied, $Q_2 = \Delta Q + Q_1$

$Q_2 = 10 + 4 = 14$ units

********** END *********