The mohan began footbal team plays in a stadium with a seating capacity of 180000. however during the past season, attendance averaged only 150000. the average ticket price was rs 30 if price elasticity is -4, what price should team have to charge in order to fill the stadium?

Solution

Price elasticity (Ed):

$$E_d = \frac{\frac{P_1+P_2}{2}}{\frac{Q_{d_1}+Q_{d_2}}{2}} \times \frac{\Delta Q_d}{\Delta P} = \frac{P_1 + P_2}{Q_{d_1} + Q_{d_2}} \times \frac{\Delta Q_d}{\Delta P}$$

P means a price, *Q* means the quantity.

In our case:
-4 = (30 + P2)/(150000 + 180000)*(180000 - 150000)/(P2 - 30)
-4 = (30 + P2)/330000*30000/(P2 - 30)
-4 = (30 + P2)/(11(P2 - 30))
-44P2 + 1320 = 30 + P2
45P2 = 1290
P2 = rs 28.7
So, the new price should be rs 28.7, which is lower, than the previous price.