

Answer on Question #38374 - Math – Algorithms

Suppose the reduction in price equals to $\alpha \in (0,1)$. Then the new price is

$$50 \cdot (1 - \alpha)$$

Since total number of visitors increased by 60%, box office collection increased with multiplier

$$(1 - \alpha)0.6$$

Thus

$$(1 - \alpha)0.6 = 0.36$$

$$1 - \alpha = 0.6$$

$$\alpha = 0.4$$

Thus ticket price reduced by 40%.

(a)

The man invested $1000 \cdot Rs. 7 = Rs. 7000$ money.

(b)

Since dividend equals to 0.08, percentage return on his outlay equals to

$$100\% * \frac{5 \cdot 0.08}{7} = 5.71\%$$