

Exam P

Problem 96 (Univariate Probability Dist'n)

Givens:

Sell 21 tickets at \$50/ticket.

Bus hold 20 people.

If all show up cost = \$100.

$\Pr(\text{No show}) = 0.02$ ← independent of others.

$$E(\text{Revenue}) = E(\text{Profit} - \text{Cost})$$

$$= (21) \cdot (50) - 100 \cdot \Pr(\text{all show up})$$

$$= (21) \cdot (50) - 100 \cdot (1 - \Pr(\text{No show}))^{21}.$$

$$= (21) \cdot (50) - 100 \cdot (0.98)^{21}$$

$$= 985.$$

Choose E