

Assignment

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Question 10.13.3.40

A Lot consists of 48 mobile phones of which 42 are good, 3 have only minor defects and 3 have major defects. Varnika will buy a phone if it is good but the trader will only buy a mobile if it has no major defects. One phone is selected at random from the lot. What is the probability that it is

- 1) acceptable to Varnika?
- 2) acceptable to the trader?

Solution: Then

S_1	The mobile is good
S_2	The mobile has major defects
S_3	The mobile has minor defects

- 1) Varnika buys a mobile

Varnika buys if the mobile is good

$$p_X(X = S_1) = \frac{42}{48} \quad (1)$$

$$= \frac{7}{8} \quad (2)$$

- 2) Trader will buy a mobile

The trader buys if the mobile does not have major defects

$$1 - p_X(X = S_2) = 1 - \frac{3}{48} \quad (3)$$

$$= \frac{15}{16} \quad (4)$$