5 WOMEN (2 HAVE GLASSES)

3 MEN (NONE HAVE GLASSES)

ex: P(MAN OR GLASSES) ex: P(WOMAN OR GLASSES)

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1. $S = \{1,2,3,4,5,6,7,8,9,10\}$ $E = \{1,2,3,4,5\}$

a) $E^c = 1 - E$

$= \{1,2,3,4,5,6,7,8,9,10\} - \{1,2,3,4,5\}$

$= \{6,7,8,9,10\}$

b) $E = \{1,2,3,4,5\}$ $F = \{1,3,5,7,9\}$

E OR F $= \{1,2,3,4,5,7,9\}$

c) $E = \{1,2,3,4,5\}$ $G = \{8,10\}$

E or G $= \{1,2,3,4,5,8,10\}$

2. $P(E) = 0.20$ $P(F) = 0.30$

a) P(E or F) IF P(E AND F) = 0.10

$P(E \text{ OR } F) = P(E) + P(F) - P(E \text{ AND } F)$

$P(E \text{ OR } F) = 0.20 + 0.30 - 0.10 = \boxed{0.40}$

b) P(E AND F) IF P(E OR F) = 0.25

$P(E \text{ OR } F) = P(E) + P(F) - P(E \text{ AND } F)$

$0.25 = 0.20 + 0.30 - P(E \text{ AND } F)$

$P(E \text{ AND } F) = 0.20 + 0.30 - 0.25$

$= \boxed{0.25}$

c) $P(E \text{ OR } F) = P(E) + P(F)$

$= 0.20 + 0.30 = \boxed{0.50}$

d) $P(E^c) = 1 - P(E)$

$= 1 - 0.20$

$= \boxed{0.80}$

e) $P(F^c) = 1 - P(F)$

$= 1 - 0.30 = \boxed{0.70}$