

1. Out of 60 students surveyed, 42 use Facebook (F), and 33 use Instagram (G). 12 students use neither. Find...

a) $P(F \cap G)$

Make a diagram here!

12 13

15 5
13

b) $P(F' \cap G)$

12 13

15 5
13

c) $P(F' \cup G')$

2. Assume that the survey results from #1 are perfectly representative of all the teenagers in America. If I select 100 random American teenagers...

a) what is the probability that 80 of them are Facebook users?

b) how many of them would you expect to be Facebook users?

3. Each of the dice in this problem is a regular, 6-sided die. Box A contains 2 dice, and Box B contains 3 dice. If I pick a box at random and then roll all the dice in the box and record the sum of the dice. Find...

a) $P(\text{The sum of the dice is } 6 \mid \text{I picked box A}) =$

Make a diagram here!

b) $P(\text{The sum of the dice is } 6 \mid \text{I picked box B}) =$

c) $P(\text{The sum of the dice is } 6) =$

d) $P(\text{I picked box B} \mid \text{The sum of the dice is } 6) =$

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