

3.15: Bringing It Together- Homework

123. A previous year, the weights of the members of the San Francisco 49ers and the Dallas Cowboys were published in the San Jose Mercury News. The factual data are compiled into Table 3.15.1.

Shirt #	≤ 210	211–250	251–290	$290 \leq$
1–33	21	5	0	0
34–66	6	18	7	4
66–99	6	12	22	5

Table 3.15.1

For the following, suppose that you randomly select one player from the 49ers or Cowboys.

If having a shirt number from one to 33 and weighing at most 210 pounds were independent events, then what should be true about $P(\text{Shirt} \# 1 - 33 \mid \leq 210 \text{ pounds})$?

124. The probability that a male develops some form of cancer in his lifetime is 0.4567 . The probability that a male has at least one false positive test result (meaning the test comes back for cancer when the man does not have it) is 0.51 . Some of the following questions do not have enough information for you to answer them. Write "not enough information" for those answers. Let C = a man develops cancer in his lifetime and P = man has at least one false positive.

a. $P(C) =$

b. $P(P \mid C) =$

c. $P(P \mid C') =$

d. If a test comes up positive, based upon numerical values, can you assume that man has cancer? Justify numerically and explain why or why not.

125. Given events G and H : $P(G) = 0.43$; $P(H) = 0.26$; $P(H \cap G) = 0.14$

a. Find $P(H \cup G)$.

b. Find the probability of the complement of event $(H \cap G)$.

c. Find the probability of the complement of event $(H \cup G)$.

126. Given events J and K : $P(J) = 0.18$; $P(K) = 0.37$; $P(J \cup K) = 0.45$

a. Find $P(J \cap K)$.

b. Find the probability of the complement of event $(J \cap K)$.

c. Find the probability of the complement of event $(J \cap K)$.

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