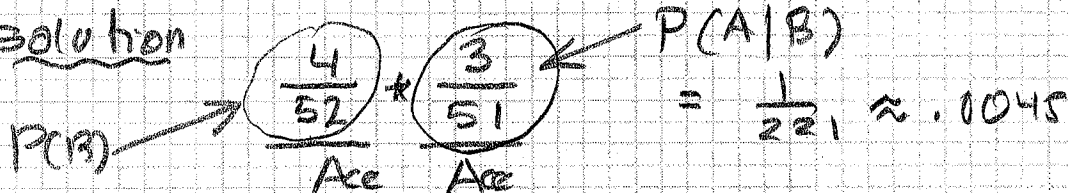


PROBABILITIES. EX 2

1) Two cards are dealt. What is the probability of getting two Aces?

Solution



Event B: Getting an Ace on the first draw

Event A: " " " " " 2nd "

$$P(A|B) = \frac{P(A \cap B)}{P(B)} \Rightarrow P(A \cap B) = P(B) \cdot P(A|B)$$

2) Two cards are dealt. What is the probability of getting two of a kind?

$$P(2 \text{ Aces}) = P(2 \text{ ones}) = P(2 \text{ twos}) = \dots = P(2 \text{ kings})$$

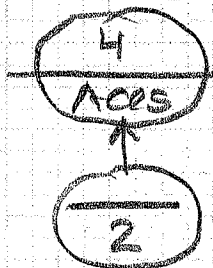
$$P(\text{two of a kind}) = 13 * \frac{1}{221} = \frac{13}{221}$$

1 again) How many possible pairs of cards are there?

$$\binom{52}{2} = 1326 = n(S)$$

How many possible pairs of Aces are there?

$$\binom{4}{2} = 6 = n(A)$$



$$P(A) = \frac{n(A)}{n(S)} = \frac{6}{1326} = \frac{1}{221}$$

2 again)

$$n(S) = 1326$$

$$n(A) = \binom{13}{2} = 78$$

$$P(A) = \frac{n(A)}{n(S)} = \frac{78}{1326} = \frac{13}{221}$$