Conditional Probability Formula

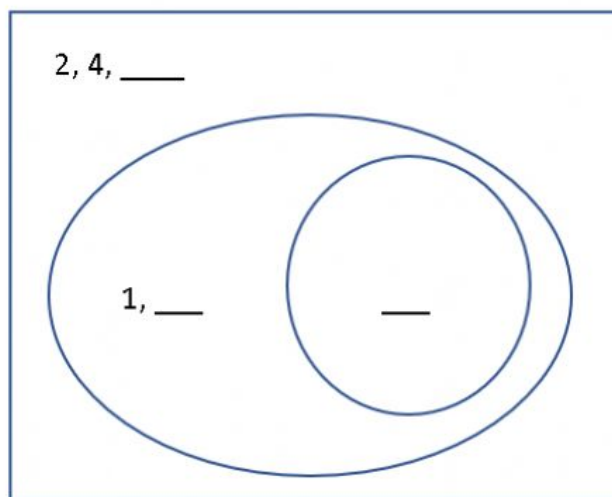$$P(A\,|\,B) = \frac{P(A \cap B)}{P(B)}$$

Probability of
A given B

Probability of
A and B

Probability of B

1) What is the probability that you roll a 3 on a regular die, given that you know the number is odd?

    i)   Fill in the missing numbers on this Venn diagram.

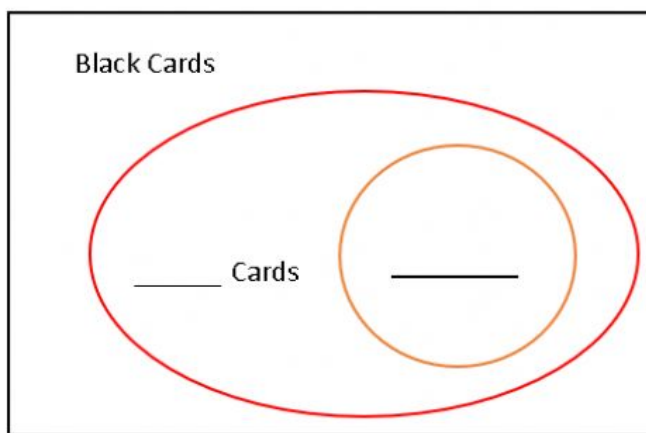   ii)   What is the probability that you get a 3, given the number is odd?

           P(3|odd) = —

2, 4, ____

1, ___

___

2) In a regular deck of 52 playing cards, what is the probability of picking a heart given the card is red?

    i)   Fill in the missing words

    ii)   How many red cards are there? _____

    iii)   How many hearts are there? _____

    iv)   What is the probability that you pick a heart, given it is red?

           P(heart|red) = —

Black Cards

_____ Cards

_____

3) A group of 30 students are surveyed on what gaming console they use. The results showed that 20 students used PS4's but 5 used both PS4 and PC. (Hint: fill in the 'both' area first and then look at how many students played PS4 i.e., make sure the numbers add to 30)

    i)   Fill in the missing info.

    ii)   How many students used PC only? _____

    iii)   What is the probability of randomly selecting a student who plays both PS4 and PC, given that you know they play PC?
            P(Both|PC) = —

    iv)   What is P(Both|PS4) = —

PS4

PC

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