Task 1: **What is the probability of getting a 2 or a 5 when a die is rolled**?

Ans : To find the probability of getting 2 or 5 on the face when a die is rolled. We can do this by using the formula of probability.

P(E) = (Number of times event occurs)/(Total number of trials)

Sample space of possible outcomes on rolling a die is S = {1, 2, 3, 4, 5, 6}

If event E is the probability of getting 2 or 5 as outcome on rolling a die.

Task 2: **Consider another example where a pack contains 4 blue, 2 red and 3 black pens. If a pen is drawn at random from the pack, replaced and the process repeated 2 more times, What is the probability of drawing 2 blue pens and 1 black pen?**

Number of times event occurs [n(E)] = 2

Here, total number of pens = 9

Probability of drawing 1 blue pen = 94

Probability of drawing another blue pen = 94

Probability of drawing 1 black pen = 93

Probability of drawing 2 blue pens and 1 black pen = 4/9 × 4/9 ×3/9 =48/729=16/243

Task 3: When two dice are rolled, find the probability of getting a greater number on the first die

Let the event of getting a greater number on the first die be G.

There are 5 ways to get a sum of 8 when two dice are rolled = {(2,6),(3,5),(4,4), (5,3),(6,2)}.

And there are two ways where the number on the first die is greater than the one on the second given that the sum should equal 8, G = {(5,3), (6,2)}.

Therefore, P(Sum equals 8) = 5/36 and P(G) = 2/36.

Now, P(G|sum equals 8) = P(G and sum equals 8)/P(sum equals 8)

= (2/36)/(5/36)

= 2/5