

② Two dices are rolled. if both dices have six faces numbered 1, 2, 3, 5, 7 and 11, Then the probability that the sum of the numbers on the top faces is less than or equal to 8 is:

soln: Sample space (S) is

(1,1)	(1,2)	(1,3)	(1,5)	(1,7)	(1,11)
(2,1)	(2,2)	(2,3)	(2,5)	(2,7)	(2,11)
(3,1)	(3,2)	(3,3)	(3,5)	(3,7)	(3,11)
(5,1)	(5,2)	(5,3)	(5,5)	(5,7)	(5,11)
(7,1)	(7,2)	(7,3)	(7,5)	(7,7)	(7,11)
(11,1)	(11,2)	(11,3)	(11,5)	(11,7)	(11,11)

Total No. of cases =  $6 \times 6 = 36$ .

E: sum of numbers is less than or equal to 8.

Outcomes are:

(1,1)	- - - - -	(1,7)	→	(5)
(2,1)	- - - - -	(2,5)	→	(4)
(3,1)	- - - - -	(3,5)	→	(4)
(5,1)	- - - - -	(5,3)	→	(3)
(7,1)	- - - - -		→	(1)

$$\therefore n(E) = 5 + 4 + 4 + 3 + 1 = 17$$

$$\therefore P(E) = \frac{17}{36}$$