

Question: A student says that if you throw a die, it will show up 1 or not 1. Therefore, the probability of getting 1 and the probability of getting 'not 1' each is equal to  $\frac{1}{2}$ . Is this correct? Give reasons.

**Solution:** :

No, this is not correct.

Suppose if we throw a die,

Then total number of outcomes = 6

Possible outcomes = 1 or 2 or 3 or 4 or 5 or 6

Hence, Probability of getting 1 =  $\frac{1}{6}$

Now,

$$\text{Probability of getting not 1} = 1 - \text{Probability of getting 1} \quad (1)$$

$$= 1 - \frac{1}{6} \quad (2)$$

$$= \frac{5}{6} \quad (3)$$

$\therefore$  Probability of getting 1 and Probability of getting not 1 is not equal.