EduSahara™ Assignment

Name : Probability Concepts

Chapter : Probability

Grade : SSC Grade X



1. What is the probability of a sure event?

   (i) $\frac{1}{2}$ (ii) $\frac{1}{4}$ (iii) 1 (iv) 0 (v) $\frac{3}{4}$

2. What is the probability of an impossible event?

   (i) $\frac{1}{4}$ (ii) $\frac{3}{4}$ (iii) 1 (iv) 0 (v) $\frac{1}{2}$

3. There are 60 students in a class room of whom 30 are boys and 30 are girls. From these students, one is choosen at random. What is the probability that the choosen student is a boy ?

   (i) $\frac{3}{4}$ (ii) $\frac{4}{5}$ (iii) $\frac{2}{3}$ (iv) $\frac{5}{6}$ (v) $\frac{1}{2}$

4. There are 66 students in a class room of whom 30 are boys and 36 are girls. From these students, one is choosen at random. What is the probability that the choosen student is a girl ?

   (i) $\frac{7}{12}$ (ii) $\frac{7}{11}$ (iii) $\frac{5}{11}$ (iv) $\frac{6}{11}$

5. In a lottery, there are 27 prizes and 12 blanks. What is the probability of getting a prize?

   (i) $\frac{4}{13}$ (ii) $\frac{9}{13}$ (iii) $\frac{10}{13}$ (iv) $\frac{8}{13}$ (v) $\frac{5}{7}$

6. In a lottery, there are 22 prizes and 20 blanks. What is the probability of not getting a prize?

   (i) $\frac{1}{2}$ (ii) $\frac{3}{7}$ (iii) $\frac{10}{21}$ (iv) $\frac{11}{21}$

7. Which of the following are true?

   a) The probability of an event that cannot happen is unknown
   b) If the probability is too less, it will become negative
   c) If the probability of failing the exam is 0.5, the probability of passing the exam is 0.5
   d) Probability of getting 110 marks out of 100 is 1.1
   e) The probability of an event that is very likely to happen is 1

   (i) {a,c} (ii) {d,e,c} (iii) {b,c} (iv) {c}

8. Which of the following experiments have equally likely outcomes?

   a) A man starts his vehicle. It starts or it does not starts
   b) A man throws a die. The number on the top is either 2 or not 2
   c) A ball is hit. It reaches the boundary or not
   d) A true/false question is attempted. The answer is either right or wrong
   e) A baby is born. It is a boy or girl

   (i) {c,a,d} (ii) {d,e} (iii) {b,e} (iv) {b,e,d} (v) {a,d}

9. Which of the following are possible values of probability?

a) 2
b) $\frac{9}{8}$
c) 0.5
d) -2.2
e) $\frac{2}{5}$

(i) {a,c} (ii) {b,e,c} (iii) {d,a,c} (iv) {c,e} (v) {b,e}

10. If $P(E) = 0.83$, find $P(\bar{E})$

(i) 2.17 (ii) 7.17 (iii) 0.17 (iv) 1.17 (v) 8.17

11. Which of the following are true?

a) For an event E, we have $0 \leq P(E) \leq 1$
b) The probability of an imposible event can be > 1
c) The probability of an impossible event is 1
d) The probability of an unsure event is 0
e) The probability of a sure event is 1

(i) {d,b,a} (ii) {c,e} (iii) {c,e,a} (iv) {a,e} (v) {b,a}

12. Which of the following are true?

a) $P(E) + P(\bar{E}) = 0$
b) P(E) + P(not E) = 1
c) $P(E) = 1 - P(\bar{E})$
d) P(E) - P(not E) = 0
e) $P(E) - P(\bar{E}) = 0$

(i) {e,a,b} (ii) {d,c,b} (iii) {b,c} (iv) {d,c} (v) {a,b}

13. Two players Teena and Flavia play a tennis match. It is known that the probability of Teena winning the match is 0.33. What is the probability of Flavia winning the match?

(i) $\frac{33}{100}$ (ii) $\frac{68}{101}$ (iii) $\frac{17}{25}$ (iv) $\frac{33}{50}$ (v) $\frac{67}{100}$

14. Deepti and Vimala are friends. What is the probability that both will have different birthdays? (ignoring a leap year).

(i) $\frac{1}{365}$ (ii) 1 (iii) $\frac{365}{366}$ (iv) $\frac{364}{365}$ (v) $\frac{363}{365}$

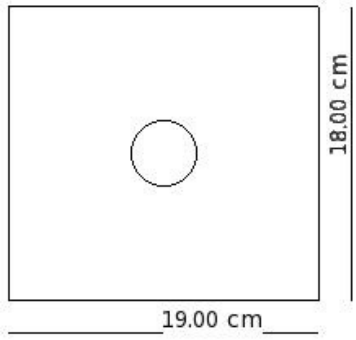
15. Renuka and Sarojini are friends. What is the probability that both will have same birthdays? (ignoring a leap year).

(i) 0 (ii) $\frac{1}{365}$ (iii) $\frac{364}{365}$ (iv) $\frac{2}{365}$ (v) $\frac{1}{183}$

16. In a musical chair game, the person playing the music has been advised to stop playing the music at any time with in 2 minutes after she starts playing. What is the probabilty that the music will stop within the first half-minute after starting?

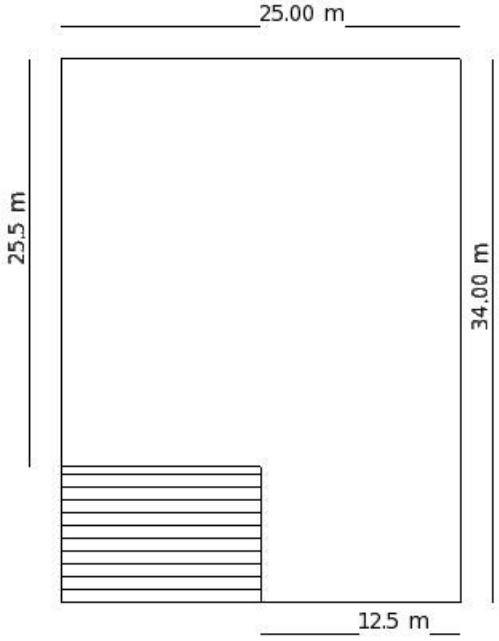
(i) $\frac{2}{5}$ (ii) $\frac{1}{4}$ (iii) 0 (iv) $\frac{1}{2}$ (v) $\frac{3}{4}$

17. Suppose a die is thrown on a rectangular region as shown below. What is the probability that it will land inside the circle of diameter 4.00 cm?




(i) $\frac{44}{1197}$ (ii) $\frac{5}{133}$ (iii) $\frac{1153}{1197}$ (iv) $\frac{45}{1198}$ (v) $\frac{43}{1197}$

18. A missing helicopter is reported to have crashed somewhere in the rectangular region shown in fig. What is the probability that it crashed inside the shaded region as shown in the figure?




(i) $\frac{2}{9}$ (ii) $\frac{1}{8}$ (iii) $\frac{7}{8}$ (iv) $\frac{1}{4}$ (v) 0

## Assignment Key

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|---|---|---|---|---|---|
| 1) (iii) | 2) (iv) | 3) (v) | 4) (iv) | 5) (ii) | 6) (iii) |
| 7) (iv) | 8) (ii) | 9) (iv) | 10) (iii) | 11) (iv) | 12) (iii) |
| 13) (v) | 14) (iv) | 15) (ii) | 16) (ii) | 17) (i) | 18) (ii) |