

Probability (1)

Dice

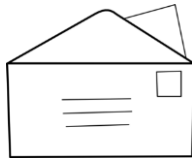


1. A fair dice is rolled.
What is the probability of rolling:
(a) 6 $=1/6$ (b) 3 $=1/6$
(c) 2 or 3 $=1/3$ (d) even number $=1/2$
(e) number greater than 2 $=2/3$
2. A fair dice is rolled.
What is the probability of rolling:
(a) 1 $=1/6$ (b) 2,3 or 4 $=1/2$
(c) 3 or 5 $=1/3$ (d) number less than 2 $=1/6$
3. A fair dice is rolled.
What is the probability of rolling:
(a) 1 or 3 $=1/3$ (b) 2,3,4 or 5 $=2/3$
(c) 7 $=0$ (d) number less than 10 $=1$

Colours

1. A bag contains four red balls, two green balls and one white ball (RRRR GG W).
What is the probability of picking:
(a) red ball $4/7$ (b) white $=1/7$ (c) green $2/7$
(d) ball which is *not* white $6/7$
2. A bag contains three red balls, two green balls and four white balls.
What is the probability of picking:
(a) red ball $1/3$ (b) white or green $2/3$
(c) ball which is *not* white $5/9$
3. A bag contains four red balls, two green balls and four white balls.
What is the probability of picking:
(a) red ball $2/5$ (b) white, yellow or red $4/5$
(c) ball which is *not* white $3/5$

Letters



1. A random letter is chosen from INTEGER
What is the probability of choosing:
(a) T $=1/7$ (b) G $=1/7$ (c) E $=2/7$
(d) vowel $=3/7$ (e) consonant $=4/7$
2. A random letter is chosen from RHOMBUS
What is the probability of choosing:
(a) R $=1/7$ (b) U $=1/7$ (c) T $=0$
(d) vowel $=2/7$ (e) consonant $=5/7$
3. A random letter is chosen from PARALLEL
What is the probability of choosing:
(a) P $=1/8$ (b) A $=1/4$ (c) P or A $=3/8$
(d) vowel $=3/8$ (e) not a vowel $=5/8$
(f) vowel or consonant $=1$

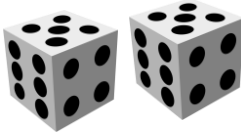
Colours extension



1. A bag contains three red balls, two green balls and four white balls. Two balls are picked out.
What is the probability of picking:
(a) A red ball on the first turn $1/3$
(b) A red ball on the second turn, if the first ball is red and is *not* replaced $1/4$
(c) A white ball on the first turn $4/9$
(d) A white ball on the second turn, if the first ball is white and is *not* replaced $3/8$
(e) A green ball on the first turn $2/9$
(f) A green ball on the second turn, if the first ball is red and is *not* replaced $1/8$

Probability (2)

Dice



4. Two fair dice are rolled.
What is the probability of rolling:
 - (a) double 6 = $\frac{1}{36}$ (b) double 3 = $\frac{1}{36}$
 - (b) one dice 5, the other dice 6 = $\frac{1}{18}$
 - (c) a total of 10 = $\frac{1}{12}$
 - (d) a total of 3 or less = $\frac{1}{12}$
5. Two fair dice are rolled.
What is the probability:
 - (a) Exactly one dice is 6 = $\frac{5}{18}$
 - (b) Either dice is 6 = $\frac{11}{36}$
 - (c) Neither dice is 6 = $\frac{25}{36}$
6. Two fair dice are rolled.
What is the probability:
 - (a) Both dice are odd = $\frac{1}{4}$
 - (b) At least one dice is odd = $\frac{3}{4}$
 - (c) The total is odd = $\frac{1}{2}$

Letters



1. A random letter is chosen from ISOSCELES
What is the probability of choosing:
 - (a) C = $\frac{1}{9}$ (b) S or E = $\frac{5}{9}$ (c) H or I = $\frac{1}{9}$
2. A random letter is chosen from SCALENE
Then a second random letter is chosen from the remaining six letters. What is the probability:
 - (a) The first letter chosen is an S? = $\frac{1}{7}$
 - (b) The second letter chosen is an S? = $\frac{1}{7}$
 - (c) Both first and second letter is an E? = $\frac{1}{21}$
 - (d) Neither first nor second letter is E? = $\frac{10}{21}$
 - (e) Either first or second letter is E? = $\frac{11}{21}$

Colours



A bag contains four red balls, two green balls and one white ball (RRRR GG W)

1. One ball is picked and put back in, then a second ball is picked. What is the probability:
 - (a) First ball red = $\frac{4}{7}$ (b) Second ball red = $\frac{4}{7}$
 - (c) Both first and second ball red = $\frac{16}{49}$
 - (d) Neither first nor second ball is red = $\frac{9}{49}$
 - (e) Either first or second ball is red = $\frac{40}{49}$
2. One ball is picked and removed, then a second ball is picked. What is the probability:
 - (a) First ball red = $\frac{4}{7}$ (b) Second ball red = $\frac{4}{7}$
 - (c) Both first and second ball are red = $\frac{2}{7}$
 - (d) Neither first nor second ball is red = $\frac{1}{7}$
 - (e) Either first or the second ball red = $\frac{6}{7}$
3. Compare your answers to Question 1(c) and Question 2(c). What effect does removing the first ball have on the probability of both balls being red? **Less likely if first ball removed**

Birthdays



1. For this question, assume that everyone is equally likely to be born on any day of the week. Find the probability:
 - (a) That someone born on Wednesday = $\frac{1}{7}$
 - (b) That someone born on weekend = $\frac{2}{7}$
 - (c) That two people both born Friday = $\frac{1}{49}$
 - (d) That two people are both born on the weekend = $\frac{4}{49}$
 - (e) That two people born on same day = $\frac{1}{7}$