MATHS

NCERT - NCERT MATHEMATICS(TAMIL ENGLISH)

PROBABILITY

Example Solution

1. If two identical coins are tossed simultaneously. Find (a) the possible

simultaneously. Find (a) the possible

outcomes, (b) the number of total outcomes, (c) the probability of getting two heads, (d) probability of getting atleast one head, (e) probability of getting no heads and (f) probability of getting only one head.

2. (a) Write the probability of getting each number on the top face when a die was rolled in the following table. (b) Find the sum of the probabilities of all outcomes.

3. A spinner was spun 1000 times and the frequency of outcomes was recorded as in given table:
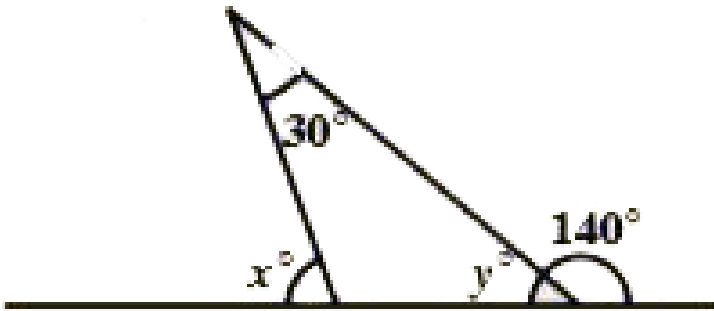

Find (a) List the possible outcomes that you can see in the spinner (b) Compute the probability of each outcome. (c) Find the ratio of each outcome to the total number of times that the spinner spun (use the table)

4. Find the values of x and y in the figure .

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5. Assume that a dart will hit the dart board

and each point on the dart board is equally

likely to be hit in all the three concentric

circles where radii of concetric circles are 3 cm, 2 cm and 1 cm as shown in the figure below. Find the probability of a dart hitting the board in the region A. (The outer ring)

Exercise 14 1

1. A coin is tossed 100 times and the following outcomes are recorded

Head:45 times Tails:55 times from the experiment

a) Compute the probability of each outcomes.

b) Find the sum of probabilities of all outcomes.

2. A spinner has four colours as shown in the figure. When we spin it once, find

a) At which colour, is the pointer more likely to stop?

b) At which colour, is the pointer less likely to stop?

c) At which colours, is the pointer equally likely to stop?

d) What is the chance the pointer will stop on white?

e) Is there any colour at which the pointer certainly stops?

3. From the English alphabers one letter is chosen at random. What is the probability that it is a vowel?

4. An insurance company selected 2000 drivers at random (i.e., without any preference of one driver over another) in a particular city to find a relationship between age and accidents. The data obtained is given in the following table:

Find the probabilities of the following events for a driver chosen at random from the city:

(i) The driver being in the age group 18-29 years and having exactly 3 accidents in one year.

(ii) The driver being in the age group of 30-50 years and having one or more accidents in a year.

(iii) Having no accidents in the year.

5. What is the probability that a randomly thrown dart hits the square board in shaded region

(Take $\pi = \dfrac{22}{7}$ and express in percentage)

Try These

1. If you try to start a scooter , What are the possible outcomes?

2. When you roll a die, What are the six possible outcomes?

3. When you spin the wheel shown, What are the possible outcomes?

(Out comes here means the possible sector

where the pointer stops)

4. You have a jar with five identical balls of different colours (White, Red, Blue, Grey and Yellow) and you have to pickup (draw) a ball without looking at it. List the possible outcomes you get.

5. A letter is chosen from English alphabet.

Find the probability of the letters being

a letter that comes after P

6. A letter is chosen from English alphabet.

Find the probability of the letters being

A vowel or a consonant

7. Find the probability of each event when a die is rolled once

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Think Discuss And Write

1. In rolling a die .

Does the first player have a greater chance of

getting a six on the top face?

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2. In rolling a die .

Would the player who played after him have a lesser chance of getting a six on the top face?

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3. In rolling a die .

Suppose the second player got a six on the top face. Does it mean that the third player would not have a chance of getting a six on the top face?

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Do This

1. A letter is chosen at random from the letter of the word "PROBABILITY". Find the probability that it is not a vowel.

2. Classify the following statements into the categories less likely, equally likely, more likely.

a) Rolling a die* and getting a number 5 on the top face.

b) Cold waves in your village in the month of

November.

c)   India   winning   the   next   soccer(football)world cup

d) Getting a tail or head when a coin is tossed.

e) Winning the jackpot for your lottery ticket