PROBABILITY PROBLEM 1

ai21btech11028

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1 Introduction

This is the solution for problem 1.C of 2014 paper

2 Given:

A die has six faces marked by the numbers 1,2,3,-1,-2,-3.
The die is thrown once.

3 To Find:

- The probability of getting a positive integer.
- The probability of getting an integer greater than -3.
- The probability of getting the smallest integer.

4 Solution:

4.1 part 1:

Let S be the sample space.
S={1,2,3,-1,-2,-3}
Thus , n(S) = 6
Let E1 be the event of getting positive integer.
E1 = {1,2,3}
Thus , n(E1) = 3
Probability P(E1) = n(E1)/n(S)
Thus p(E1) =3/6
=1/2
=0.5

4.2 part 2:

Let S be the sample space.
S ={1,2,3,-1,-2,-3}
Thus , n(S) = 6
Let E2 be the event of getting an integer greater than -3.
E2 = {1,2,3,-1,-2}
Thus , n(E2) = 5
Probability P(E2) = n(E)/n(S)
Thus p(E2) =5/6
=0.833

4.3 part 3:

Let S be the sample space.
S ={1,2,3,-1,-2,-3}
Thus , n(S) = 6
Let E3 be the event of getting the smallest integer.
E3 = {-3}
Thus , n(E3) = 1
Probability P(E3) = n(E3)/n(S)
Thus , p(E3) = 1/6
=0.166