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Probability Assignment

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I. PROBLEM1

A. Question

A die has two faces each with number '1', three faces each with number '2' and one face with number '3'. If die is rolled once, determine

- (i) $P(2)$
- (ii) $P(1 \text{ or } 3)$
- (iii) $P(\text{not } 3)$

B. Solution

Total number of faces = 6

i) Number faces with number '2' = 3

$$P(2) = \frac{3}{6} = \frac{1}{2}$$

ii) $P(1 + 3) = P(1) + P(3)$

Number faces with number '1' = 2

$$P(1) = \frac{2}{6}$$

Number faces with number '3' = 1

$$P(3) = \frac{1}{6}$$

$$\text{So, } P(1) + P(3) = \frac{2}{6} + \frac{1}{6} = \frac{3}{6} = \frac{1}{2}$$

iii) $P(3') = 1 - P(3)$

Number faces with number '3' = 1

$$P(3) = \frac{1}{6}$$

$$P(3') = 1 - \frac{1}{6} = \frac{5}{6}$$