

## Advanced Numerical Ability - TCS NQT Practice

### Topic: Time and Work

1. A and B together can complete a work in 12 days. B alone takes 20 days. How many days will A alone take?

Solution:  $A + B = 1/12$ ,  $B = 1/20$   $A = 1/12 - 1/20 = (5 - 3)/60 = 1/30$  A takes 30 days.

2. A can do a work in 10 days and B in 15 days. They worked together for 5 days. What fraction of the work is left?

Solution:  $A + B = 1/10 + 1/15 = (3 + 2)/30 = 5/30 = 1/6$  per day. In 5 days =  $5/6$  done. So  $1 - 5/6 = 1/6$  left.

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### Topic: Permutation and Combination

1. How many 4-letter words can be formed from the word EXAM without repetition?

Solution: 4 letters, all different  $4! = 24$  words.

2. How many ways can 3 boys and 2 girls sit in a row such that girls sit together?

Solution: Treat 2 girls as 1 unit 4 units  $4!$  ways. Girls can be arranged among themselves =  $2! \cdot 4! \cdot 2! = 48$  ways.

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### Topic: Probability

1. What is the probability of getting a sum of 7 when two dice are thrown?

Solution: Favorable outcomes = (1,6), (2,5), (3,4), (4,3), (5,2), (6,1) 6. Total = 36  $P = 6/36 = 1/6$ .

2. A card is drawn from a pack. What is the probability it is a red face card?

Solution: Red face cards = 6 (K, Q, J of hearts and diamonds), total = 52  $P = 6/52 = 3/26$ .

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