

## Permutation and Combination - Class XI

### Related Questions with Solutions

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#### Questions

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##### Question: 01

Number of positive integral solutions satisfying the equation  $(x_1 + x_2 + x_3)(y_1 + y_2) = 77$ , is

- A. 150
- B. 270
- C. 420
- D. 1024

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#### Solutions

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##### Solution: 01

$$(x_1 + x_2 + x_3)(y_1 + y_2) = 77 = 7 \times 11 \\ = 11 \times 7$$

$$1] x_1 + x_2 + x_3 = 7 \quad y_1 + y_2 = 11 \\ \text{Number of solutions} = {}^{7-1}C_{3-1} \times {}^{11-1}C_{2-1} = 150$$

$$2] x_1 + x_2 + x_3 = 11 \quad y_1 + y_2 = 7 \\ \text{Number of solutions} = {}^{11-1}C_{3-1} \times {}^{7-1}C_{2-1} = 270$$

$$\therefore \text{Total solution} = 150 + 270 = 420$$

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#### Correct Options

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Answer:01

Correct Options: C