

Case Study on Direct and Inverse Proportion

A hotel has 320 rooms and 32 cleaners to maintain them. With full capacity of staff, it took 2 hours to clean all the rooms. Equal number of rooms are allocated for each staff member for cleaning.

Q. 1. On Monday 25% of the cleaners were not available. Will the cleaning of all rooms take more than 2 hours? How can you say so? Also find the required time to clean all the rooms in this case.

Q. 2. Ishan says, "The number cleaners available in the hotel is directly proportional to the time taken by them to clean the rooms."

Mira says, "The number of cleaners available in the hotel is inversely proportional to the time taken by them to clean the rooms."

Who is correct? Give reason.

Q. 3. The hotel administration hired 8 more cleaners. What is the change in number of rooms maintained by each cleaner?

Q. 4. How many rooms has to be cleaned in an hour by each cleaner after the increase in the number of staff?

- (a) 1
- (b) 4
- (c) 8
- (d) 10

Q.5 Guests are arriving within 40 minutes. Then how many more cleaners must be hired to clean all the rooms on time?