



## Sports Scheduling: An Introduction

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### Quick Question

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## Quick Question

### Quick Question

1/2 points (graded)

Suppose that you are trying to schedule 3 games between 6 teams (A, B, C, D, E, and F) that will occur simultaneously. Which of the following are feasible schedules? Select all that apply.

☒ A plays B, C plays D, and E plays F ✓

☐ A plays C, B plays D, and C plays F

☐ A plays F, B plays E, and C plays D ✓

☐ A plays B, B plays C, and C plays D

☐ A plays D, B plays E, and C plays F ✓



#### Explanation

Each of the teams has to play exactly one of the other teams for the games to occur simultaneously. In the second option, C is playing twice, which is impossible. In the

fourth option, B and C are both playing twice.

How many different feasible schedules are there?

☐ 5

☐ 10

☒ 15 ✓

☐ 20

☐ 25

### Explanation

There are 15 different feasible schedules. We can count them by observing that A can play any of the 5 teams. Once this is fixed, we have 4 teams left. There are 3 ways to make two pairs out of 4 teams. So in total, there are  $5 \times 3 = 15$  different schedules. Here is a list of all of them:

A plays B, C plays D, E plays F  
A plays B, C plays E, D plays F  
A plays B, C plays F, D plays E  
A plays C, B plays D, E plays F  
A plays C, B plays E, D plays F  
A plays C, B plays F, D plays E  
A plays D, B plays C, E plays F  
A plays D, B plays E, C plays F  
A plays D, B plays F, C plays E  
A plays E, B plays C, D plays F  
A plays E, B plays D, C plays F  
A plays E, B plays F, C plays D  
A plays F, B plays C, D plays E  
A plays F, B plays D, C plays E  
A plays F, B plays E, C plays D

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You have used 2 of 2 attempts

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**i** Answers are displayed within the problem

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