



## QT Product rule for counting

1. There are 14 boys and 12 girls in a class. One boy and one girl will be asked to represent the school at a local council meeting.

Work out the total number of ways to choose a boy and a girl.

2. There are  $x$  boys and 15 girls in a cooking competition. One boy and one girl will be chosen to demonstrate how to cook an omelette. There are 165 different ways of choosing a boy and a girl.

Show that this could be correct.

3. There is a choice of 5 starters, 9 main courses and 6 deserts at Ida's restaurant.

Work out the total number of ways of choosing a starter, a main course and a desert.

4. There is a choice of 7 cakes and  $x$  hot drinks at Papa Joe's American Diner. Rohan says there are 82 ways to choose a cake and a hot drink.

Could Rohan be correct?

You must show your working.



5. There are 52 cards in a deck of cards. Zaid is the dealer in a game of 'Chase the ace.' He gives one card to Eesha and one card to Ryan.  
How many different ways are there of doing this?

6. There are 20 teams in a cricket league. Two teams are going to be chosen at random to play a match.  
Work out the number of matches that could take place.

7. There are 15 teams in a general knowledge tournament. Each team will compete against every other team once.  
Work out the number of competitions.

8. There are 52 cards in a deck of cards. Chris is the dealer in a game of 'Go Fish.' She gives one card to Jo, one card to John, and one card to Simon.  
How many different ways are there of doing this?