

Product Rule for Counting - Worksheet

Applied

- 1) (a) As part of a meal deal offer you can choose one sandwich, one snack and one drink. There are:

8 different sandwiches;

4 different drinks;

5 different snacks.

How many different meal combinations are there?

- (b) Three of the sandwiches have cheese in them.
Two of the drinks are fizzy.

Daniel picks a meal deal at random.

Work out the probability that the sandwich has cheese in it and the drink is fizzy.

- 2) Paul is choosing a flower and a house plant for his new home. There are 16 different types of flowers and some house plants at the garden centre. Paul says:

“There are 148 different ways to choose one flower and one house plant”.

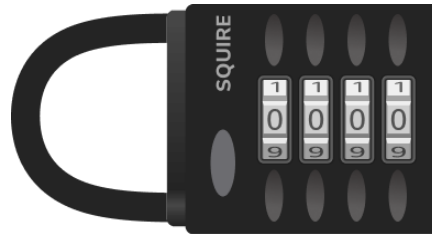
Could Paul be correct? You must show how you get your answer.

- 3) There are 10 people in a room. If each person shakes each other person's hand once, work out the number of handshakes that take place.

- 4) Robert picks a 4-digit even number.
The second digit is a multiple of 4.
How many different numbers could Robert pick?

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- 5) Below is a combination lock. This lock requires a 4-digit code.



- (a) How many different codes could you have on this combination lock?
- (b) How many different codes could you have that are multiples of 5?
- (c) How many different codes could you have that are even numbers?
- (d) How many different codes could you have that are greater than or equal to 7000?

Product Rule for Counting - Exam Questions

- 1) There are 12 boys and 15 girls in a class. One girl and one boy will be selected to represent the class in a debate.

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

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(2 marks)

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- 2) There are 14 girls and x boys in a choir. One girl and one boy will be selected to sing a duet. Tim says there are 152 different ways of choosing a boy and a girl.

Could Taylor be correct?
You must show your working.

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(2 marks)

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- 3) There are 52 cards in a deck.

Johnny is going to give one card to Carl and one card to Kia.

How many different ways are there of doing this?

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(2 marks)

Product Rule for Counting - Exam Questions

- 4) There are 8 teams in a football tournament. Each team will play every other team once. Work out the total number of games played.

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(2 marks)

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- 5) Carole picks a 5-digit even number.

The first digit is a prime number.

The third digit is odd.

The fourth digit is 7.

How many different 5-digit numbers could she pick?

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(2 marks)