THIRD SPACE LEARNING

GCSE Exam Questions

Product Rule for Counting | Probability

GCSE Exam Questions: Product Rule for Counting

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.

(2 marks)

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.

(2 marks)

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?

(2 marks)

GCSE Exam Questions: Product Rule for Counting

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.

(2 marks)

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?

(2 marks)

GCSE Exam Questions: Product Rule for Counting Answers

	Question	Answer	Marks
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.	12×15 180	**(1)** **(1)**
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.	$152 \div 14 = 10.857\ldots$ No, the number of boys would need to be an integer	**(1)** **(1)**
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?	52×51 2652	**(1)** **(1)**
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.	$\frac{8 \times 7}{2}$ 28	**(1)** **(1)**
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?	$4 \times 10 \times 5 \times 1$ 200	**(1)** **(1)**

Where to go next?

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