Name:

Level 2 Further Maths

Product Rule for Counting

Corbettmaths

Ensure you have: Pencil or pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Revision for this topic

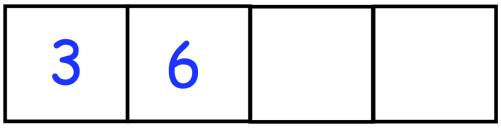
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1. Benjamin picks a 4 digit pin for his debit card.

Each digit is a number is 0 to 9.
Benjamin can repeat digits.

His pin starts with 3 6



(a) How many possible codes are there?

……..

(1)

The fourth digit is larger than the third digit.

(b) How many possible codes are there?

……..

(2)

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2. Ethan picks a 5-digit even number.

The first digit is odd
The second digit is prime
The fourth digit is a positive multiple of 3

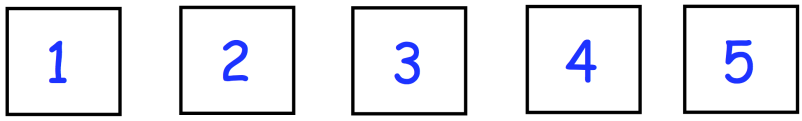
How many different 5-digit numbers could he pick?

.....

(2)

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3. Tiernan has five number cards.



Tiernan is making 5-digit numbers using the number cards.

How many different ways can Tiernan arrange the number cards?

.....

(3)

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4. Orla picks a 5-digit odd number.

The second digit is a third of the first digit.
The third digit is less than 6

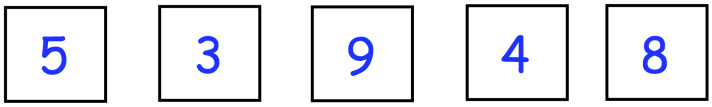
How many different numbers could she pick?

.....

(3)

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5. Jackson makes 5-digit numbers using all of these cards.



How many different numbers greater than 50000 can Jackson make?

.....

(3)

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6. In a gym there are

9 exercise classes on a Monday
8 exercise classes on a Wednesday
15 exercise classes on a Friday

Max is going to attend either

a class on Monday and a class on Wednesday
or a class on Monday and a class on Friday
or a class on Monday, Wednesday and Friday.

How many different ways can Max pick which exercise classes he is going to attend?

(3)

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7. James is creating a 6-digit code to lock his iPad.

He does not repeat any digit.

(a) How many possible codes can James create?

……..

(2)

Kelvin also creates a 6-digit code.

For the first two digits of his code he uses a multiple of 13.
The third digit is one greater than the fourth digit.
For the last two digits, Kelvin uses an odd number between 10 and 80.

(b) How many possible codes can Kelvin create?

……..

(2)

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8. In a class, there are fifteen girls and thirteen boys.
three of the girls and four of the boys are left handed.

The teacher picks one girl and one boy at random.

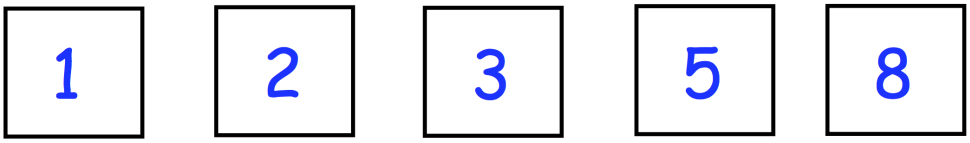
What percentage of the possible pairings of students are **both** the students right handed?

.....

(3)

---

9. Chris makes 5-digit numbers using all of the cards below.



How many different numbers less than 70000 can he make?

.....

(3)

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10. In Year 10 there are 80 girls.
Two of the girls are going to be chosen at random to go on a trip.

Work out the number of different pairs that can be chosen.

……..

(2)

---

11. How many odd numbers greater than 40,000 can be created using these digits

2 3 4 5 9

using each digit only once.

……..

(3)

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12. A pizza parlour sells 12 different pizza toppings.

Grace orders a pizza with 3 different pizza toppings.

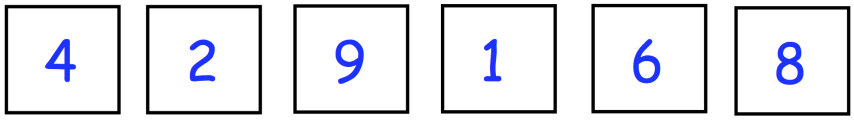
How many different pizzas can Grace order?

……..

(4)

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13. George has the six number cards below.



(a) How many 4-digit numbers can be made that are less than 5000?

.....

(3)

(b) How many 5-digit **even** numbers can be made that are greater than 30000?

.....

(3)

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14. A group of 14 people enter a room.

Each person shakes hands with all the other people in the room.

How many handshakes are there in total?

……..

(3)

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