

Exercise 1

Calc. : ✗

Calculate:	
1. $\binom{5}{3}$	1 mark
2. $\binom{201}{1}$	1 mark

Exercise 2

Calc. : ✗

The PIN code of a bank card consists of 5 digits.	
1. How many different PINs can you create?	3 marks
2. Lisa has a PIN code that consists of 5 digits. Unfortunately, she forgot her PIN. She remembers that her PIN code begins with the number 418 and she also remembers that the numbers 0 and 9 do not appear in her PIN code. How many PIN codes are still possible?	4 marks

Exercise 3

Calc. : ✗

A class consists of 6 Flemish and 3 Dutch pupils. In this class we select a team of 3 students for the student council.	
1. How many different teams of 3 students can be formed?	3 marks
2. How many different teams of 3 students can be formed if each team has at least 1 Flemish and 1 Dutch representative?	3 marks

Exercise 4

Calc. : ✗

The probability distribution of a stochastic variable X is given.													
<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>x</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>$P(X = x)$</td> <td>$\frac{1}{10}$</td> <td>$\frac{1}{5}$</td> <td>$\frac{2}{5}$</td> <td>$\frac{1}{5}$</td> <td>$\frac{1}{10}$</td> </tr> </table>	x	0	1	2	3	4	$P(X = x)$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{2}{5}$	$\frac{1}{5}$	$\frac{1}{10}$	
x	0	1	2	3	4								
$P(X = x)$	$\frac{1}{10}$	$\frac{1}{5}$	$\frac{2}{5}$	$\frac{1}{5}$	$\frac{1}{10}$								
1. Explain why this table is a probability distribution.	2 marks												
2. Calculate the expected value of X .	2 marks												
3. Calculate $P(X > 2)$.	2 marks												
4. Calculate $P(X < 4)$.	2 marks												

Exercise 5

Calc. : ✗

In an ice cream parlor you can choose from 2 flavors of ice cream: chocolate or vanilla. A combination of flavors is not allowed. You can get the ice cream in a cone or a cup. In this ice cream parlor, 50% of the customers choose a cone and 50% opt for a cup. 35% of customers choose a cup with chocolate ice cream. 20% of customers take vanilla ice cream.	
1. A new customer enters the ice cream parlor. Calculate the probability that the customer chooses a cone with vanilla ice cream.	4 marks
2. The next customer chooses vanilla ice cream. Calculate the probability that this customer wants a cone.	4 marks
3. Are the events “choosing a cone” and “choosing chocolate ice cream” independent events? Explain your answer.	4 marks