Name ..... FA.... row .... col....

1.	2.	3.	$\sum$

1. Write the mathematical formulas corresponding to the following statements with the help of the following signs only: propositional connectives, quantifiers, variables varying through set $\mathbb{N}$ and symbols indicated in brackets

a) *number x is a square of a prime number*$(\cdot, +, =, 1)$

b) *x is the largest even divisor of n*$(\cdot, +, =, 1, <)$

3. Proof by induction

$6|n^3 - n$.

4. For how many assignments the formula is true? Transform it into DNF form (e.i. $(x_1 \wedge x_2 \wedge x_3) \vee (..) ... \vee (...)$ where x_i are variable or their negations)

$$[(q \Rightarrow p) \Rightarrow r] \Rightarrow \sim [q \Rightarrow (p \Rightarrow r)]$$

Name ..... FA.... row .... col....

1.	2.	3.	$\sum$

1. Write the mathematical formulas corresponding to the following statements with the help of the following signs only: propositional connectives, quantifiers, variables varying through set $\mathbb{N}$ and symbols indicated in brackets

a) *number x is a sum of two prime numbers* $(\cdot, +, =, 1)$

b) *x is the only even divisor of* $n(\cdot, +, =, 1, <)$

3. Proof by induction

$6|n^3 + 5n$.

4. For how many assignments the formula is true? Transform it into DNF form (e.i. $(x_1 \wedge x_2 \wedge x_3) \vee (..) ... \vee (...)$ where x_i are variable or their negations)

$$[(p \wedge q) \vee (q \wedge r)] \Rightarrow [(p \vee q) \Leftrightarrow r]$$

Name ..... FA.... row .... col....

1.	2.	3.	$\sum$

1. Write the mathematical formulas corresponding to the following statements with the help of the following signs only: propositional connectives, quantifiers, variables varying through set $\mathbb{N}$ and symbols indicated in brackets

a) *number x is a product of an odd number and a prime number* $(\cdot, +, =, 1)$

b) *x is the only smallest square bigger than n* $(\cdot, +, =, 1, <)$

3. Proof by induction

$2^n > 2n$ for $n > 1$.

4. For how many assignments the formula is true? Transform it into DNF form (e.i. $(x_1 \wedge x_2 \wedge x_3) \vee (..) ... \vee (...)$ where x_i are variable or their negations)

$$[(p \vee q) \Rightarrow r] \Rightarrow [(p \wedge q) \Leftrightarrow r]$$