## Section 4 - Algebra

# UCD Maths Support Centre / UCD Access Centre <br> Leaving Certificate Mathematics 

Higher Level \& Ordinary Level
support centre

## Outline

- 4.1 Expressions


## Outline

- 4.1 Expressions
- 4.2 Solving Equations


## Outline

- 4.1 Expressions
- 4.2 Solving Equations
- 4.3 Inequalities


## Outline

- 4.1 Expressions
- 4.2 Solving Equations
- 4.3 Inequalities
- 4.4 Complex Numbers


## Outline

- 4.1 Expressions
- 4.2 Solving Equations
- 4.3 Inequalities
- 4.4 Complex Numbers
- www.curriculumonline.ie


## Definitions

## Definitions

## Variable - A letter representing a number.

## Definitions

## Variable - A letter representing a number.

- In $3 x$, the variable is $x$.


## Definitions

## Variable - A letter representing a number.

- In $3 x$, the variable is $x$.
- In $-2 y$, the variable is $y$.


## Definitions

## Variable - A letter representing a number.

- In $3 x$, the variable is $x$.
- In $-2 y$, the variable is $y$.

Coefficient - The number or symbol multiplying a variable.

## Definitions

## Variable - A letter representing a number.

- In $3 x$, the variable is $x$.
- In $-2 y$, the variable is $y$.

Coefficient - The number or symbol multiplying a variable.

- In $3 x$, the coefficient is 3 .


## Definitions

Variable - A letter representing a number.

- In $3 x$, the variable is $x$.
- In $-2 y$, the variable is $y$.

Coefficient - The number or symbol multiplying a variable.

- In $3 x$, the coefficient is 3 .
- In $-2 y$, the coefficient is -2 .

Constant - Something that does not change value.

Constant - Something that does not change value.

- Just a number on its own.

Constant - Something that does not change value.

- Just a number on its own.
- In $3 x+5$, the constant is 5 .

Constant - Something that does not change value.

- Just a number on its own.
- In $3 x+5$, the constant is 5 .
- In $-2 y+10$, the constant is 10 .

Constant - Something that does not change value.

- Just a number on its own.
- In $3 x+5$, the constant is 5 .
- $\ln -2 y+10$, the constant is 10 .

Term - A constant, a variable, or a constant multiplied by a variable

Constant - Something that does not change value.

- Just a number on its own.
- In $3 x+5$, the constant is 5 .
- In $-2 y+10$, the constant is 10 .

Term - A constant, a variable, or a constant multiplied by a variable

- 3,

Constant - Something that does not change value.

- Just a number on its own.
- In $3 x+5$, the constant is 5 .
- In $-2 y+10$, the constant is 10 .

Term - A constant, a variable, or a constant multiplied by a variable

- $3, x$

Constant - Something that does not change value.

- Just a number on its own.
- In $3 x+5$, the constant is 5 .
- In $-2 y+10$, the constant is 10 .

Term - A constant, a variable, or a constant multiplied by a variable

- 3, $x$ and

Constant - Something that does not change value.

- Just a number on its own.
- In $3 x+5$, the constant is 5 .
- In $-2 y+10$, the constant is 10 .

Term - A constant, a variable, or a constant multiplied by a variable

- $3, x$ and $3 x$ are three different terms.


## Arithmetic Operations - The four operations of:

Arithmetic Operations - The four operations of:

- Addition (+)

Arithmetic Operations - The four operations of:

- Addition (+)
- Subtraction (-)

Arithmetic Operations - The four operations of:

- Addition (+)
- Multiplication $(\times)$
- Subtraction (-)

Arithmetic Operations - The four operations of:

- Addition (+)
- Subtraction (-)
- Multiplication $(\times)$
- Division $(\div)$

Arithmetic Operations - The four operations of:

- Addition (+)
- Subtraction (-)
- Multiplication $(\times)$
- Division $(\div)$

Algebraic Expression or Expression - One or more terms and arithmetic operations.

Arithmetic Operations - The four operations of:

- Addition (+)
- Subtraction (-)
- Multiplication $(\times)$
- Division $(\div)$

Algebraic Expression or Expression - One or more terms and arithmetic operations.

- $3 x-2 y$ is an expression.

Arithmetic Operations - The four operations of:

- Addition (+)
- Subtraction (-)
- Multiplication $(\times)$
- Division $(\div)$

Algebraic Expression or Expression - One or more terms and arithmetic operations.

- $3 x-2 y$ is an expression.
- $4 x+5$ is an expression.

Arithmetic Operations - The four operations of:

- Addition (+)
- Subtraction (-)
- Multiplication $(\times)$
- Division $(\div)$

Algebraic Expression or Expression - One or more terms and arithmetic operations.

- $3 x-2 y$ is an expression.
- $4 x+5$ is an expression.
- $10 x^{2}-5 x+3$ is also an expression.

