St Patrick's High School Keady

Mathematics Department

Learning Intentions

YEAR 9

Unit: ALGEBRA

Stage: Basic Algebra

At the end of this unit **all** pupils should be able to:

- Simplify an algebraic expression by collecting like terms
- Multiply out single brackets using positive numerical coefficients
- Solve simple linear equations where the unknown appears on only one side
- Substitute given numerical values into expressions or formulae

At the end of this unit **most** pupils should be able to:

- Solve linear equations where the unknown appears on both sides, to include brackets

At the end of this unit **some** pupils should be able to:

- Multiply out single brackets using negative and/or letter coefficients
- Multiply out and simplify two single linear brackets
- Factorise a simple expression easily by taking all common factors outside the bracket
- Solve algebraic equations involving squares and cubes using trial & improvement

St Patrick's High School Keady

Mathematics Department

Learning Intentions

YEAR 9

Unit: ALGEBRA

Stage: Straight Line Graphs

At the end of this unit **all** pupils should be able to:

- Draw and label the x and y axis with positive and negative values
- Plot and label co-ordinates in all four quadrants
- Draw and label horizontal and vertical lines on a co-ordinate axis
- Draw and label the lines y = x and y = -x
- Read and interpret conversion graphs

At the end of this unit **most** pupils should be able to:

- Draw y = mx + c lines using the method of substituting into a table to derive co-ordinates
- Write down the gradient and y-intercept from the equation of a straight where y is the subject

At the end of this unit **some** pupils should be able to:

- Solve linear simultaneous equations graphically Find the equation of a straight line, when given the gradient and the y intercept
- Recognise that lines are parallel from the equation of a straight line

St Patrick's High School Keady

Mathematics Department

Learning Intentions

YEAR 9

Unit: ALGEBRA

Stage: Sequences

At the end of this unit **all** pupils should be able to:

- Use the given terms in a sequence to find the next term in the sequence
- Use the given terms in a sequence to find missing terms
- Use the given terms of a sequence to find the rule for the sequence
- Generate a sequence when given the rule and the first term
- Continue a sequence derived from diagrams

At the end of this unit **most** pupils should be able to:

- Find the formula for the n^{th} term of an arithmetic sequence
- Use the n^{th} term formula to generate terms of a sequence

At the end of this unit **some** pupils should be able to:

- Determine whether a number is a term of a given sequence