St Patrick's High School Keady

Mathematics Department

Learning Intentions

Year 9

Unit: Shape and Space

Stage: Perimeter and Area

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

- Calculate the perimeter of regular shapes with some missing but attainable sides
- Calculate the perimeter of compound shapes with some missing but attainable sides
- Calculate the area of a square and rectangle
- Calculate the area of a triangle
- Calculate the area of a parallelogram
- Convert between metric units of length

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

- Calculate the area of a trapezium
- Calculate the area of a compound shape made from squares, rectangles and right-angled triangles with missing but attainable sides
- Find the length of a side of a square, given the area
- Find the length of a side of a rectangle, given the area and another side

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

- Calculate the missing side of a right-angled triangle when given the area and one of the perpendicular sides

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Learning Intentions

Year 9

Unit: Shape and Space

Stage: Circles

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

- Identify and label the parts of a circle
- Recall that pi = 3.14
- Convert between the diameter and radius of a given circle

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

- Calculate the circumference of the circle, given either radius or diameter
- Calculate the area of the circle, given either radius or diameter

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

- Calculate the area of a semi-circle or quarter circle
- Calculate the area of compound shapes involving parts of circles
- Calculate the perimeter of a semi-circle or quarter circle

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Learning Intentions

Year 9

Unit: Shape and Space

Stage: Angles

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

- Categorise types of angles, i.e. acute, straight, obtuse, reflex
- Categorise types of triangles i.e. isosceles, scalene, right angle, equilateral
- Calculate a missing angle using the appropriate angle fact
- Calculate a missing angle in a triangle
- Using a protractor to measure and draw any angle

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

- Calculate missing angles in triangles using special triangles i.e. isosceles, right angled, equilateral
- Calculate more than one missing angle using the appropriate angle fact
- Identify and use the angle properties relating to parallel lines and intersecting lines.

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

- Calculate more than one missing angle using all known angle properties

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Mathematics Department

Learning Intentions Year 9

Unit: Shape and Space

Stage: Construction

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

- Construct a perpendicular bisector of a given line
- Construct an angle bisector

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

Construct a triangle using protractor, compass and ruler

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

- Construct angles of 30°,45°,60° and 90° using a compass