KESTEVEN AND SLEAFORD HIGH SCHOOL

Mathematics Scheme of Learning
Year 11 – Term 2

Intent – Rationale

"Maths is for everyone". AQA GCSE Mathematics is designed to be diverse, engaging and essential to equip all students with the skills and knowledge to reach their future destination. Opportunities to make connections, generalise and apply are embedded where appropriate for each individual student. References to careers and future learning and shared with students.

Sequencing – what prior learning does this topic build upon?	Sequencing – what subsequent learning does this topic feed into?
• Year 10 Term 2 circle parts, Term 4 simultaneous equations • Year 10 Term 1 coordinates and linear graphs	• A level circle geometry, including finding the equation of a circle with any given centre. • A level calculus, rates of change

What are the links with other subjects in the curriculum?	What are the links to SMSC, British Values and Careers?
• Science-gradients representing various rates of change	GB4efghi

What are the opportunities for developing literacy skills and developing learner confidence and enjoyment in reading?	What are the opportunities for developing mathematical skills?
• 'Alex's Adventure in Numberland' - Alex Bellows • 'The Math Book' - Clifford Pickover	• Apply knowledge of finding gradient of linear relationships to approximate gradient of a curved line

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Intent – Concepts

What knowledge will students gain and what skills will they develop as a consequence of this topic?
Know   Recognise the equation of a circle with the centre at the origin.   Know the gradient as the rate of change. Find the instantaneous rate of change and the average rate of change from a curve.   **Apply**   Find where a line meets a circle   **Extend**   Find the equation of a tangent to a circle at a given point.

What subject specific language will be used and developed in this topic?	What opportunities are available for assessing the progress of students?
- Equation, circle, radius, square, tangent, origin, perpendicular - Gradient, rate of change, interpret, instantaneous, average, chord, tangent	- End of topic homework tests - Exam question practice – open book - Mini quizzes including Kahoot - Recall starters: - LLLWLTLY - Corbett 5 a day - Whiterose maths KS4 problem of the day

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• Mini quiz on last term topics
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Equations of Circles	R	A	G
Recognise the equation of a circle with the centre at the origin			
Find the equation of a tangent to a circle at a given point			
Find where a line meets a circle			

Gradients	R	A	G
Interpret the gradient of a straight line as the rate of change			
From a graph find the instantaneous rate of change			
From a graph find the average rate of chance			