| Subject | Year | Month |  |
| :--- | :---: | :---: | :---: |
| Mathematics |  |  | 11 |
| Topic: | January |  |  |
| 4 |  |  |  |
| Rearranging equations, graphs of cubic <br> and reciprocal functions, simultaneous <br> equations |  |  |  |
| Content (Intent) <br> Prior (earning <br> Year 10 Solving equations March |  |  |  |

## Objectives

- Know the difference between an equation and an identity and use and understand the $\neq$ symbol;
- Change the subject of a formula involving the use of square roots and squares;
- Answer 'show that' questions using consecutive integers $(n, n+1)$, squares $a^{2}$, $b^{2}$, even numbers $2 n$, and odd numbers $2 n+1$;
- Solve problems involving inverse proportion using graphs, and read values from graphs;
- Find the equation of the line through two given points;
- Recognise, sketch and interpret graphs of simple cubics
- Recognise, sketch and interpret graphs of the reciprocal function $y=\frac{1}{x}$ with $x \neq 0$;
- Use graphical representations of indirect proportion to solve problems in context:
- identify and interpret the gradient from an equation $a x+b y=c$;
- Write simultaneous equations to represent a situation;
- Solve simultaneous equations (linear/linear) algebraically and graphically;
- Solve simultaneous equations representing a real-life situation, graphically and algebraically, and interpret the solution in the context of the problem;

| Pedagogical notes (implementation) | How will understanding be assessed \& recorded (Impact) |  |  |
| :---: | :---: | :---: | :---: |
| Emphasise the need for good algebraic notation. | End of half term no End of Year 2 ${ }^{\text {nd }}$ mocks in Feb \& March |  |  |
|  | How can parents help at home? |  |  |
|  | MathsWatch clips <br> Qualification KS3: <br> Qualification KS4: $\quad 96,136,140,159 b, 161,162,190$ |  |  |
| Further reading/discussion |  |  |  |
| Reading / Enrichment | Literacy | Numeracy Links | Careers Links <br> Engineer <br> Physicist <br> Statistician |

