**Knowledge Organiser**

**Lent Term Set 1 Year 10**

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| **Topic** | **Self-Assessment** | **Independent Learning and homework tasks** |
| **MyMaths** | **CorbettMaths.com** |
| Calculate density and pressure (4) |  | N/A | Video 384, 385 |
| Calculate volume & surface area of cones, pyramids & spheres (5/6).Calculate rates of flow in/out of containers (8). |  | Shape, Volume & Surface Area – Volume of Cones & Spheres, Complex Surface Areas | Video 359 - 361 |
| Enlarging similar shapes – use of volume & SA scale factors (6) |  | Shape, Scale & Similarity – Area Scale Factor, Volume Scale Factor | Video 293a, b |
| Be able to draw quadratic graphs (5) and use them to solve quadratic equations (7) |  | Algebra, Graphs – Plotting Graphs | Video 264 |
| Determining the equations of straight line graphs (4/5) |  | Algebra, Graphs y=mx+c | Videos 187-191 |
| Finding the equations of parallel and perpendicular lines (7) |  | Algebra, Graphs – Equation of a Line 2 | Videos 196-197 |
| Be able to calculate missing angles using angle rules (3) |  | Shape, Angles – Angles in Parallel Lines & Interior Exterior Angles | Video 25 |
| Understand, prove and use the rules for angles in circles (8) |  | Shape, Circle Theorems – Intersecting Chords, Circle Theorem Proof | Videos 64 - 65 |
| Be able to expand triple brackets (7) |  | GCSE (9-1) Eng: Algebra, Algebraic Manipulation, Expanding Three Binomials | Video 15 |
| Factorising quadratic expressions and solving quadratic equations by factorising (6). |  | Algebra, Equations – quadratic, Quadratic equations 1 & 2 | Video 266 |
| Simplify and manipulate surds (7/8).  |  | Number, Powers & Roots, Surds 1 & 2 | Videos 305 - 308 |
| Rationalise the denominator of a surd (9). |  | Number, Powers & Roots, Surds 2 | Video 307 |

**Stretch and Challenge:**

1. Practise UKMT Intermediate Maths Challenge Past papers on:

 <https://www.ukmt.org.uk/competitions/solo/intermediate-mathematical-challenge/archive>

1. Set up an account on parallel.org.uk website, using your school email address and use teacher code “**ha52kh**”
2. Attend Puzzle Club one lunch time each week

**Lent Term Knowledge**

**Volume and Surface Area of 3D shapes**

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**Circle Theorems**



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