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| **Subject** | **Year 10 Foundation Threshold Concepts – Spring Term** | **How to support students’ learning** |
| Mathematics | **Geometric Constructions and Calculations**   * Calculate angles on a line and about a point * Calculate vertically opposite angles * Calculate angles in a triangle * Calculate angles in quadrilaterals * Use line and shape properties * Combine angle facts * Calculate angles on parallel lines * Use quadrilateral properties to find angles   **Direct and Inverse Proportion**   * Write and simplify ratio * Share amounts in a given ratio * Solve direct proportion word problems * Interpret and construct direct proportion equations * Understand graphs of direct proportion * Solve inverse proportion word problems * Interpret and construct inverse proportion equations * Understand graphs of inverse proportion   **Percentage Change**   * Convert between fractions, decimals and percentages * Find percentages of amounts with and without a calculator * Calculate percentage change with and without a calculator * Find original values in percentage calculations * Perform compound interest calculations   **Real-Life Graphs**   * Plot and interpret real-life graphs, including distance-time graphs   **Equations and Inequalities**   * Solve equations with two or more steps * Solve equations with the unknown on both sides * Construct and solve equations * Factorise to solve quadratic equations * Solve simultaneous equations * Construct and solve simultaneous equations * Read and draw inequalities on number lines * Solve single inequalities * Solve inequalities with unknowns on both sides * Solve double inequalities * Construct and solve inequalities | * Encourage your child to learn the rules associated with the angle facts taught in lessons * Encourage your child to have the correct equipment for lessons, e.g. a protractor, calculator * Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password * Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books * Encourage your child to look at real-life graphs and tables of data * Encourage your child to show clear working out as the find the constant of proportionality * Discuss real-life applications of ratio and proportion, e.g. baking and currency exchange (direct proportion), the fact it takes longer for 2 people to paint the same fence than 3 people (indirect proportion) * Encourage your child to have the correct equipment for lessons, e.g. a pencil, ruler, calculator * Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password * Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books * Encourage your child to use a multiplier when solving percentage problems * Discuss real-life percentage problems, e.g. discounts, interest rates, tax etc * Encourage your child to have the correct equipment for lessons, e.g. a calculator * Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password * Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books * Encourage your child to think about planning trips and journeys to see these in real-life * Encourage your child to have the correct equipment for lessons, e.g. a pencil, ruler, calculator * Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password * Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books * Encourage your child to practise their algebra skills, order of operations knowledge (BIDMAS) and multiples of factors of numbers * Encourage your child to have the correct equipment for lessons, e.g. a pencil, ruler, calculator * Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password * Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books |