**Year 9 F-Band AP Topic List**

**Non-Calculator Skills**

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| Topic |
| **Use positive integer powers and associated real roots (square, cube and higher)** |
| **Solve harder problems using properties of angles, of parallel and intersecting lines, and of triangles and other polygons, by looking at several shapes together** |
| **Use the HCF and LCM to solve problems** |
| **Describe correlation by inspection: strong or weak; positive, negative or zero** |
| **Use a line of best fit, or otherwise, to predict values of one variable given values of the other variable** |
| **State how reliable their predictions are from interpolating and extrapolating apparent trends** |
| **Add and subtract fractions (mixed) – positive and negative** |
| **Multiply out brackets involving positive or negative terms (a ± b)(c ± d)** |
| **Solve equations of the form (*ax* ± *b*)/*c* = (*dx* ± *e)/* f**  |
| **Solving multi-step problems involving ratio and percentages** |
| **Simplify more complex expressions involving index notation** |
| **Convert a recurring decimal to a fraction in simple cases** |
| **Simplify surd expressions involving squares (e.g. )** |
| **Rationalise a denominator when the denominator is an expression involving surds, e.g.** |

**Calculator Skills**

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| Topic |
| **Find and use the nth term of an arithmetic sequence** |
| **Estimate the mean of grouped data using the mid-interval value** |
| **Find the size of each interior angle or the size of each exterior angle or the number of sides of a regular polygon** |
| **Use the sine, cosine and tangent ratios to find the lengths of unknown sides in a right-angled triangle** |
| **Estimate the answer to calculations of numbers written in standard form** |
| **Use the product rule for counting (i.e. if there are *m* ways of doing one task and for each of these, there are *n* ways of doing another task, then the total number of ways the two tasks can be done is *m* × *n* ways)** |
| **Find the nth term of a quadratic sequence of the form *n*², *an*², *an*² ± *b*, *an*² ± *bn* ± *c*** |