Year 9 Term 4

Learning Aim	Developing	Securing	Mastering
Algebra Expressions	Expand single brackets & factorise simple expressions. Collecting like terms Substitute in to basic formula	Expand double brackets Expand & factorise linear expressions that include powers**.** **Simplify expressions using indice rules** Substitute into scientific formulae, linear & quadratics to find y and plot.	Expand products of two or more binomials Write and model more complex situations. **Factorise quadratics**
Examples	Collect 2x + 3y + x – 5y Expand 3x(4 – 2x) Factorise 12a + 18 If a = 2 and b = 5 work out 3b – 4a	Expand 3(a + 5) – 2(7 – 3a) Factorise $12ab^2$ + 4b Simplify y^6 x y^{-3} Draw the graph of y = x^2-2x + 1	Expand (3 + x)(x – 5) Expand (x – 2)(x + 4)(x – 3) Factorise x^2- x - 12
Statistics	Draw frequency polygons, pie charts Find all four averages from a list	Interpret pie charts Draw and interpret scatter diagrams inc. outliers, two-way tables inc. answers in probability and percentages. **Find all four averages from tables and diagrams eg. Bar chart**	**Solve complex mean problems**
Examples	<table><tr><th>Weight of box (*w* kg)</th><th>Frequency</th></tr><tr><td>0 < w ≤ 4</td><td>10</td></tr><tr><td>4 < w ≤ 8</td><td>17</td></tr><tr><td>8 < w ≤ 12</td><td>28</td></tr><tr><td>12 < w ≤ 16</td><td>25</td></tr><tr><td>16 < w ≤ 20</td><td>20</td></tr></table> Draw a frequency polygon for this data	80 children went on a school trip, they went to either London or York. 23 boys and 19 girls went to London, 14 boys wet to York. What percentage of the girls went to London?	There are 10 boys and 20 girls in a class. The class has a test. The mean mark for all the class is 60 The mean mark for the girls is 54 Work out the mean mark for the boys

Extension opportunities
Apply knowledge of expression to shape Factorise quadratics where a does not = 1 Recognise graph type by its shape

You can find practice on all the topics taught this term at Mathsworkout.co.uk.
Login: sarum.   Password: solid92

Go to Algebra; section 2,3,4,7, 13 & 16. . Stats & Probability; 2,6,7,& 13
Choosing the right level of difficulty for you within each topic area.