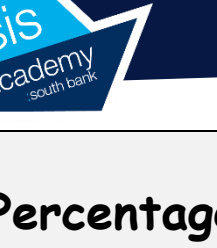
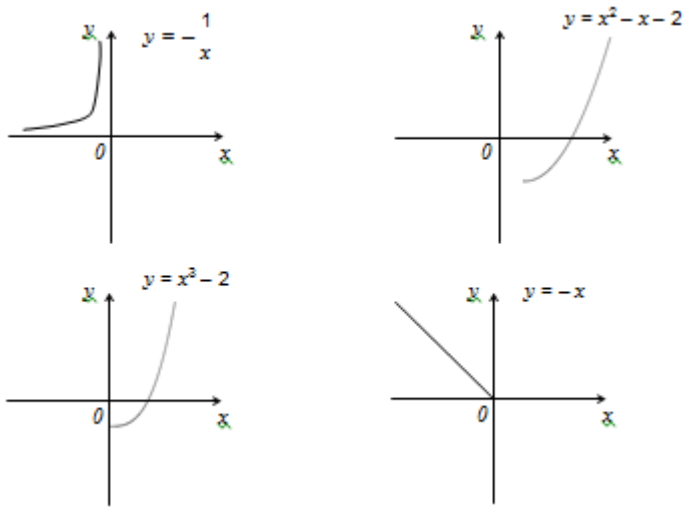
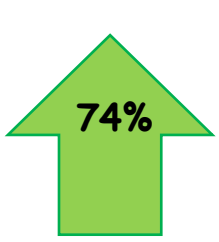
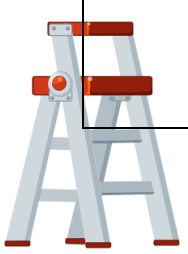
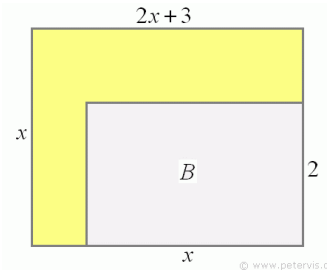
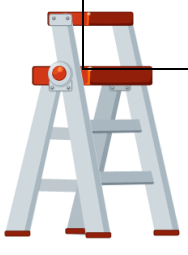
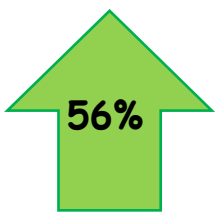
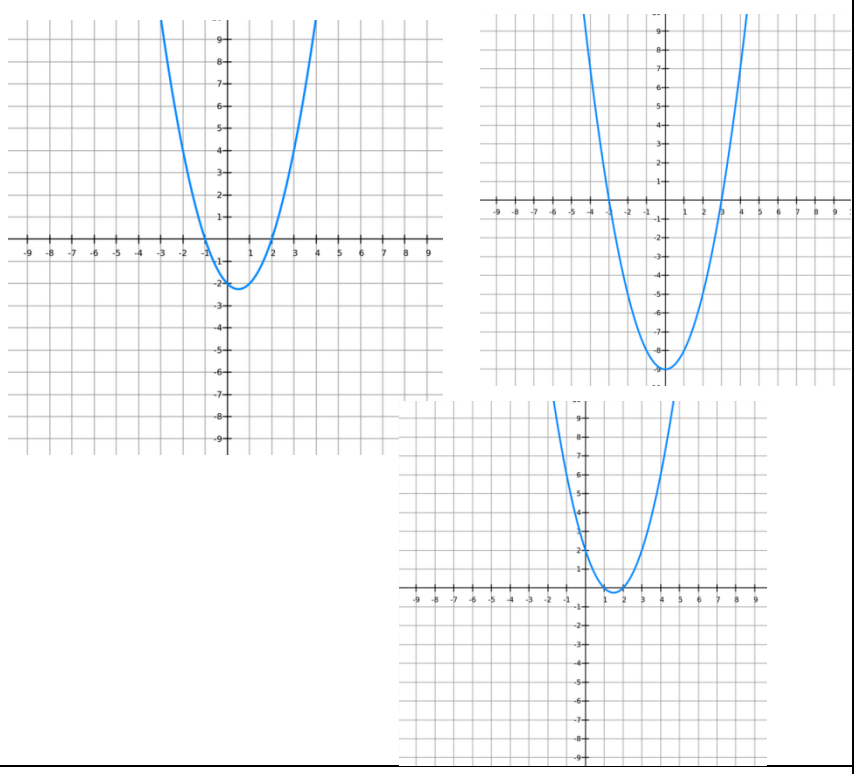
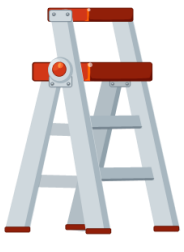
Percentage	I can …	Prove it!
	**H15.1 I can simplify and manipulate algebraic fractions**	The algebraic fraction $\frac{ax^2+bx+c}{dx^2-4}$ will simplify to $\frac{2x+3}{3x+2}$ Work out the values of *a*, *b*, *c* and *d*. a= b= c= d=
	**H14.1 I can recognise and sketch graphs of exponential functions**	Complete the graphs below: 
	**H13.3 I can solve quadratic and linear simultaneous equations**	Solve the simultaneous equations below: Is there more than one way? $y = x + 3 \; and \; y = x^2 + 3x$ $y + 2x = 5 \; and \; y = 2x^2 + x$ Find the co-ordinates of the points of intersection of these lines and quadratic curves $y = 3 \; and \; y = x^2 + 2x$
	**H13.2 I can complete the square of a quadratic expression**	For each of the following quadratic expressions: 1. Complete the square 2. Write down the coordinate of the turning point $y = x^2 + 8x - 7$ $y = x^2 - 10x + 3$ $y = 2x^2 + 7x - 2$ $y = -x^2 + 3x + 2$
	**H13.1 I can factorise quadratics in the form $ax^2 + bx + c$ where a>1**	Factorise and solve the equations below: 1. $2a^2 + 5a + 2 = 0$ 2. $7a^2 + 8a + 1 = 0$ 3. $2a^2 + 7a + 3 = 0$ 4. $3a^2 - 16a - 12 = 0$ 5. $2a^2 - a - 1 = 0$ 6. $7a^2 - 27a - 4 = 0$ 7. $5a^2 - 17a + 6 = 0$ 8. $9a^2 - 18a + 5 = 0$



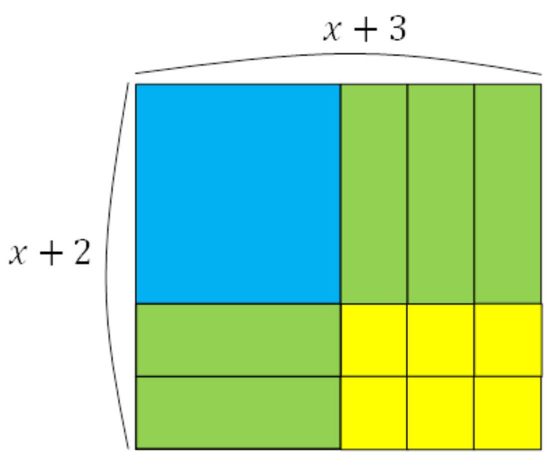
Percentage	I can …	Prove it!
68%	**C17.3 I can use a table of values to plot polynomial and reciprocal graphs**	Complete the table and plot the graph of $y=\frac{1}{x}+2$ | x | -3 | -2 | -1 | 0 | 1 | 2 | | y | | | | | | |
64%	**C16.4 I can use the quadratic equation to solve**	<u>Solve the following equations using the formula</u> *Hint: You first will need to rearrange them into the form $ax^2 + bx + c = 0$.* 1. $4x^2 + 8x = 3$ 2. $x^2 - 8x = 7$ 3. $3x^2 + 5 = 9x$ 4. $6x + 3 = 5x^2$ 5. $2x^2 = 7x - 3$ 6. $4x^2 - 9x = 3$
62%	**C18.1 I can solve linear simultaneous equations algebraically**	1. A builder requires 3 lorry-loads and 8 van-loads to fetch 15 tonnes of sand. However he will need 2 lorry-loads and 20 van-loads to fetch 21 tonnes. What is the mass of a lorry-load and a van-load?  2. A farmer can but 3 cows and 4 sheep for £560 or 6 cows and 4 sheep for £920. How much does each cow and sheep cost?
60%	**C16.5 I can solve problems using quadratics**	The diagram above shows a large rectangular piece of card of length 2x+3 and width x. A small rectangle is missing from one corner. The small rectangle has a length x and width 2 cm. The remaining shaded area is 21 cm^2.  Show that $2x^2+x-21=0$, and calculate the length of the smaller rectangle.



<table>
<tr><th>Percentage</th><th>I can …</th><th>Prove it!</th></tr>
<tr><td> 
</td><td>C17.2 I can identify intercepts and turning points of quadratic functions</td><td>Sketch the quadratic below and identify the turning point, roots and y-intercept.
$y = x^2 - 2x - 8$</td></tr>
<tr><td> 
</td><td>C17.1 I can sketch quadratics and find approximate roots</td><td>Match the equations with their graphs
$y = x^2 - x - 2$
$y = x^2 - 9$
$y = x^2 - 3x + 2$
  </td></tr>
<tr><td> 
</td><td>C16.3 I can solve quadratics in the form ax² + bx + c=0 by factorising</td><td>Match each quadratic with its factors and roots (also called solutions)
<table>
<tr><th>Quadratic</th><th>Factors</th><th>Roots/Solutions</th></tr>
<tr><td>$x^2 - 10x + 24$</td><td></td><td>$x = 5,\ x = -5$</td></tr>
<tr><td>$x^2 - x - 6$</td><td>$(x + 2)(x + 2)$</td><td></td></tr>
<tr><td></td><td>$(x - 4)(x - 6)$</td><td>$x = 4,\ x = 6$</td></tr>
<tr><td>$x^2 - 9x - 10$</td><td>$(x + 1)(x - 10)$</td><td>$x = 3,\ x = -2$</td></tr>
<tr><td>$x^2 + 4x + 4$</td><td>$(x + 5)(x - 5)$</td><td>$x = -2$</td></tr>
</table></td></tr>
</table>



Percentage	I can …	Prove it!
34%	**C16.2 I can factorise quadratics in the form $ax^2 + bx + c$**	Factorise: a. $x^2 + 8x + 12= 0$ b. $x^2 + 7x + 10= 0$ c. $x^2 + 13x + 12= 0$ d. $x^2 + 17x + 70=0$ e. $x^2 + x - 20=0$ f. $x^2 - 4x- 12=0$ g. $x^2 - 12x + 20=0$ Rearrange and factorise: a. $x^2 + 21x + 32=12$ b. $x^2 + 8x -5 = 15$ c. $x^2 + 6x + 23 = 5 - 3x$
40%	**C16.1 I can expand products of two binomials**	Expand and simplify 1. $(a + 2)(a + 4)$ 2. $(a + 3)(a + 1)$ 3. $(a - 2)(a + 3)$ 4. $(a - 4)(a + 3)$ 5. $(2a + 1)(a + 3)$ 6. $(3a - 1)(2a + 5)$ 7. $(3a - 2)(4a - 5)$ 8. $(a + 1)^2$ 9. $(3a - 1)^2$ 10. $(2a + 1)(3a - 4)(a + 5)$



Key Words:

Solve

Factorise

Expand

Binomial

Reciprocal

Polynomial

Exponential

Simplify

Roots

Solutions

Intercept

Turning Point