Grade A * Mathematics looks like .--


Manipulate surds in the form $a+b \sqrt{ } 3$

Use completing the square to simplify or solve quadratic equations, and to find maximum and minimum values
Solve harder quadratic equations ( $a \neq 1$ ) by factorisation or using the quadratic formula

Transform the graphs of $y=f(x)$, such as linear, quadratic, cubic, sine and cosine functions, using the transformations $y=$ $f(x)+a, y=f(x+a), y=f(a x)$ and $y=a f(x)$

Derive and use more complex formulae and change the subject of a formula, including cases where the subject occurs twice

## Draw, sketch and describe the graphs of trigonometric functions for angles of any size, including transformations involving ether or both of the xand y directions

Solve simple geometrical problems in 2-D using vectors, including use of the commutative and associative properties of vector addition

Solve problems involving surface areas and volumes of cylinders, pyramids, cones and spheres
Understand and use the formulae for the length of a circular arc and area and perimeter of a sector
Understand and use SSS, SAS, ASA and RHS conditions to prove the congruence of triangles using formal arguments, and to Understand and use Pythagoras' theorem to solve 3-D problems

