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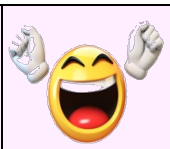
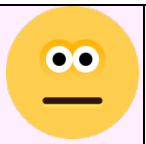
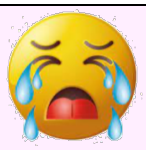
AS Pure Maths Topic Checklist

Pure Topics				
Algebra				
Expanding brackets and simplifying expressions				
Factorising (5 types)				
Simultaneous Equations				
Completing The Square				
Quadratics – Factorising, Solving And Completing The Square				
Surds				
Linear and Quadratic Modelling				
Solving Inequalities (linear, quadratic and rational)				
Indices				
Discriminant (including hidden discriminant)				
Binomial Expansion (integers powers)				
Polynomial Division, factor and remainder theorem				
Geometry				
Straight Line Graphs				
Circles				
Trigonometry				
Bearings				
Given The Value Of One Trig Function, Find Another				
Sine/Cosine Rule				
Trig graphs (sin, cos and tan)				
Identities and solving with $sin^2x + \cos^2 x = 1$ and $\tan x = \frac{\sin x}{\cos x}$				
Exponentials and Logs				
Simplifying Expressions				
Solving Logarithmic Equations				
Solving Natural Logarithmic Equations				
Solving exponential equations				
Linear transformations				
Exponential Models				
Proofs				
Counter Example				
Deduction				
Exhaustion				
Differentiation Note: for parametric differentiation see parametric equations section				
$y = x^n$ differentiation technique				
Differentiation by 1st principles $- x^n$ types				
Finding gradients				
Stationary points (max/min) and point of Inflection				
Increasing/Decreasing and Convex/Concave				
Tangents and Normals (finding equations + other applications)				
$f \leftrightarrow f' \leftrightarrow f''$ graphs				
Optimisation				
Integration Note: for parametric integration see parametric equations section				
$\int x^n$ Integration Technique				
Finding area under a curve				
Graphing				
Basic graphs (linear, quadratic, cubic, quartic, reciprocal, root, rational, exponential, log, trig + reciprocal trig)				
Transformations				
Finding points of intersection and intercepts				
Finding a polynomial equation when given a graph				
Solving graphically				
Vectors				
2D				
Geometric Types				

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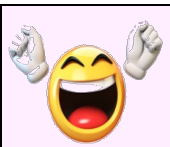
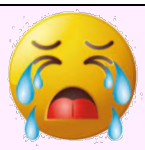
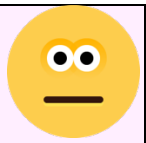
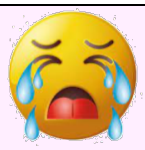
AS Statistics Topic Checklist

Statistics Topics				
Data				
Sampling				
Large data set (memorised set of facts – doesn't involve maths knowledge)				
Mean and standard deviation calculations				
Quartile Calculations - Interpolation				
Outliers				
Coding				
Box Plots				
Cumulative Frequency				
Histograms				
Comparing Data				
Regression and Correlation				
Calculating the correlation coefficient r and interpreting it				
Calculating the line of best fit/least squares regression line and interpreting the slope and intercept				
Using the line of best fit to make predictions				
Probability				
Set Notation				
Tables				
Distributions				
Dealing with Discrete Random Variables				
Binomial Distribution				
Hypothesis Testing				
Binomial Distribution – performing the test, finding critical values and p values				

AS Mechanics Topic Checklist

Mechanics Topics				
Kinematics				
Displacement, velocity and time graphs				
SUVAT – constant acceleration				
Differentiating and Integrating to get displacement, velocity, acceleration – non constant accel				
Basic Forces				
Basic horizontal and vertical forces - finding the resultant and magnitude				
Using $f = ma$ to solve basic problems such as boxes on tables etc				
Connected Particles				
Lifts				
Cars and Trailers				
Pulleys - Vertical				
Moments				
Flat plane – vertical forces				
Vectors				
Basic resolving on forces given in vector form - resultant and magnitude and finding angles				