AQA vs Edexcel Further Maths Topic Checklist

Order of difficulty from greatest to least: Edexcel iGCSE Further followed by AQA GCSE Further

AQA GCSE: 2 papers (one calculator, one non calculator)
Edexcel iGCSE: 2 papers (both calculator)
AQA GCSE: 2 papers (one calculator, one non calculator)

Topics	AQA Further GCSE	Edexcel Further iGCSE
Number		
Product Rule for Counting	■	
Algebra		
Expanding brackets and collecting like terms	■	■
Factorising (common factor, product sum, AC method, grouping, diff of 2 squares)	■	■
Completing the square	■	■
Indices	■	■
Surds	■	■
Solving linear equations	■	■
Solving quadratic equations (via factorising, quadratic formula and completing the square)	■	■
Simultaneous equations (linear and quadratic) - 2 unknowns (algebraic and graphical solutions)	■	■
Simultaneous equations (linear) - 3 unknowns	■	
Forming equations – linear and quadratic	■	■
Forming equations – Cubic	■	■
Solving inequalities – linear	■	■
Solving inequalities - quadratic	■	■
Graphs of linear inequalities (shading)		■
Binomial expansion	■	■
Algebraic fractions	■	■
Re-arranging equations to make the subject	■	■
Factor theorem	■	■
Remainder theorem		■
Polynomial division		■
Solving cubics	■	■
Algebraic Proof	■	
nth term of linear sequences	■	
nth term of quadratic sequences	■	
Sequences – nth term and limiting value	■	
Functions		
Functions – basics	■	■
Functions – composite and inverse	■	■
Functions – Knowing when an inverse exists	■	
Functions – domain and range	■	
Graphing		
Sketching functions – linear, quadratic, cubic, rational	■	■
Sketching functions – exponential	■	■
Sketching functions – trig	■	■
Sketching functions – piecewise		■
Exponentials and Logarithms		
Exponential and log graphs		■
Log rules/properties (index, multiplication, division, power and change of base)		■
Converting an exponential to a linear form		
Solving exponentials		■
Modelling – growth and decay		
Series		
∑ notation		■
Arithmetic and geometric series		■
Coordinate Geometry – Straight Line Graphs		
Gradients	■	■
Midpoints	■	■
Distance between two points	■	■
Use ratio to find the coordinates of a point on a line given the coordinates of 2 other points		■
Equation of a straight line (drawing and finding the equation)	■	■
Parallel and perpendicular lines	■	■

Topic		
Circles (equation of a circle)	🔵	
Equation of a tangent to a circle	🔵	🟠
Linear programming – forming inequalities and shading in order to optimise + applications)		🟠
Calculus		
Basic differentiation of kx^n where n is any integer	🔵	🟠
Rates of change and connected rates of change understanding	🔵	🟠
Equations of tangents and normals	🔵	🟠
Stationary/turning points	🔵	🟠
Classifying maximum and minimum	🔵	🟠
Sketching a curve based on max and min points		
Differentiation of polynomials, trig and exponentials $x^n, \frac{1}{x}, \sin ax, \cos ax, e^{ax}$)		🟠
Product and quotient rule		🟠
Increasing/decreasing functions		🟠
Second derivative	🔵	🟠
Kinematics		🟠
Basic integration		🟠
Integration of polynomials, trig and exponentials $x^n, \sin ax, \cos ax, e^{ax}$))		🟠
Scalar and vector quantities		
Addition and subtraction of vectors		🟠
Comparing components of vectors		🟠
Magnitude of a vector		🟠
Position vector		🟠
Unit vector		🟠
Geometry - parallel lines and collinearity		🟠
Matrix Transformations (2x2 or 2x1 matrices)		
Multiplying matrices	🔵	
Identity matrix	🔵	
Transformation matrices	🔵	
Trigonometry		
Surface area and volume of prisms, cylinders, sphere, cones and pyramids (assumed)	🔵	🟠
Sine and cosine rule	🔵	🟠
Sine Rule - ambiguous case		🟠
Area of any triangle		🟠
Pythagoras and SOHCAHTOA in 2D and 3D	🔵	
Trig graphs	🔵	🟠
Trig identities - $sin^2 x + \cos^2 x = 1, \tan x = \frac{\sin x}{\cos x}$	🔵	🟠
Trig identities - $\sin(a \pm b), \cos(a \pm b), \tan(a \pm b)$		🟠
Trig - special angles	🔵	🟠
Finding values of sin, cos and tan for any angle	🔵	🟠
Given value of one trig function, find the value of another trig function	🔵	🟠
Angles between a line and a plane and between 2 planes		🟠
Solving trig equations	🔵	🟠
Radians		🟠
Arc length and Area of a sector		🟠