



AQA Core 3 – Learning Programme

Summer term 2 2016/2017

Chapter	Learning Objectives	Independent Work	✓
1: Functions	<ul style="list-style-type: none"> ▪ Understand Function notation ▪ Describe the domain and range for a given function ▪ Find composite functions in the form $fg(x)$ ▪ Find inverse functions 	Chapter 1 MIXED EXERCISE Chapter 1 Test yourself	
2: Transformation of graphs and the modulus function	<ul style="list-style-type: none"> ▪ Sketch graphs of the modulus function in the form $y= f(x)$ and $y=f(x)$ ▪ Solve an equation involving a modulus ▪ Apply a combination of transformations to a graph ▪ Sketch transformations and labelling the co-ordinates of given point 	Chapter 2 MIXED EXERCISE Chapter 2 Test yourself	
3: Inverse trigonometric functions and secant, cosecant and cotangent	<ul style="list-style-type: none"> ▪ Evaluate secant, cosecant and cotangent functions of angles ▪ Use secant, cosecant and cotangent functions to solve equations ▪ Combine the secant, cosecant and cotangent functions with the Pythagorean identities ▪ Work with the inverse trig functions; arcsin, arcos, and arctan. ▪ draw the graphs of the inverse functions 	EXERCISE 3D Chapter 3 Test yourself	
4: The number and calculus	<ul style="list-style-type: none"> ▪ Recognise the number e ▪ Differentiate and integrate e^{kx} ▪ Use exponential functions and logarithmic functions in calculus 	Chapter 4 MIXED EXERCISE	

Autumn Term 1 2017/2018

Week	Chapter	Learning Objectives	Independent Work	✓
1&2 (4/9) (11/9)	5: Further differentiation and the chain rule	<ul style="list-style-type: none"> ▪ Find the derivatives of $\sin x$ and $\cos x$ ▪ Differentiate composite functions using the chain rule ▪ Use the relationship $dy/dx = \frac{1}{dx/dy}$ 	REVISION EXERCISE 5 Chapter 5 Test yourself	
2&3 (11/9) (18/9)	6: Differentiation using the product rule and the quotient rule	<ul style="list-style-type: none"> ▪ Differentiate using the product rule ▪ Differentiate using the quotient rule ▪ Differentiate $\tan x$, $\cot x$, $\sec x$ and $\operatorname{cosec} x$ 	REVISION EXERCISE 6 Chapter 6 Test yourself	
4 (25/9)	Term 1a Course suitability assessment			
5 & 6 (2/10) (9/10)	8: Integration by inspection and substitution	<ul style="list-style-type: none"> ▪ Integrate expressions using the reverse idea of the chain rule ▪ Integrate trigonometric expressions ▪ Integrate expressions of the form $\frac{f'(x)}{f(x)}$ 	REVISION EXERCISE 8 Chapter 8 Test yourself	
7 (16/10)	9: Integration by parts and standard integrals	<ul style="list-style-type: none"> ▪ Integrate expressions using integration by parts ▪ Use relevant standard integrals quoted in the formulae booklet 	REVISION EXERCISE 9 Chapter 9 Test yourself	

Autumn Term 2 2017/2018

Week	Chapter	Learning Objectives	Independent Work	✓
1 (30/10)	4: The number and calculus	<ul style="list-style-type: none"> ▪ Recognise the number e ▪ Differentiate and integrate e^{kx} ▪ Use exponential functions and logarithmic functions in calculus 	REVISION EXERCISE 4 Chapter 4 Test yourself	
2 (6/11)	7: Numerical solution of equations and iterative methods	<ul style="list-style-type: none"> ▪ Locate roots of equations by change of sign ▪ Use numerical methods to find solutions of equations ▪ Understand the principle of iteration ▪ Understand how cobweb and staircase diagrams demonstrate convergence or divergence for equations of the form $x=g(x)$ 	REVISION EXERCISE 7 Chapter 7 Test yourself	
3 (13/11)	10: Volume of revolution and numerical integration	<ul style="list-style-type: none"> ▪ Evaluate volumes of revolution ▪ Use the mid-ordinate rule to find a numerical approximation for a definite integral ▪ Use Simpson's rule to find a numerical approximation for a definite integral 	REVISION EXERCISE 10 Chapter 10 Test yourself	
4&5 (20/11) (27/11)	Core 3 Revision and Exam Practice	<ul style="list-style-type: none"> ▪ Revision by topic ▪ Past paper practice 		
6 (4/12)	Term 1b PPE (Core 3 Full Exam Paper , 1hr 30 min)			