## Year 11 - Module 10 Higher



Topic/Skill	Definition/Tips	Example	
Area Under a Curve	To find the area under a curve, so into simpler shapes — such as retriangles and trapeziums — that at the area.	plit it up so the sectangles,	7
Tangent to a Curve	A straight line that touches a cure exactly one point.	rve at y Tangent line	*
Gradient of a Curve	The <b>gradient of a curve</b> at a point same as the <b>gradient of the tang</b> point.  1. Draw a tangent carefully at the 2. Make a right-angled triangle. 3. Use the measurements on the calculate the rise and run (chang change in x) 4. Calculate the gradient.	gent at that  e point.  axes to the in y and $Gradient = \frac{Change in y}{C}$	
		Gradient = $\frac{5}{Change in x}$ = $\frac{16}{2}$ = 8	

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Rate of	The rate of change at a particular instant in	70
Change	time is represented by the <b>gradient of the</b>	60
	tangent to the curve at that point.	€
	tungent to the cur ve at that point.	(u) 40 log 30 Positive rate
		Positive rate
		of change
		0
		0 2 4 6 8 Time (s)
		70
		Negative rate
		© 40 of change
		(E) 40 of change
		20
		10
		0 2 4 6 8
		Time (s)
Distance-Time	You can find the <b>speed</b> from the <b>gradient</b>	4
Graphs	of the line (Distance ÷ Time)	Distance (Km) 3
1	The steeper the line, the quicker the speed.	
	A <b>horizontal</b> line means the object is not	
	moving (stationary).	1
	moving (stationary).	0 0 1 2 3 4 5 6 7 8 9 10
		Time (Hours)
Velocity-Time	You can find the <b>acceleration</b> from the	4
Graphs	<b>gradient</b> of the line (Change in Velocity ÷	Velocity (m/s) 2
	Time)	2
	The steeper the line, the quicker the	
	acceleration.	'//
	A horizontal line represents no	0 7 9 1 2 3 4 5 6 7 8 0 10
	acceleration, meaning a constant velocity.	Time (Seconds)
	a constant (crosity)	
	The <b>area</b> under the graph is the <b>distance</b> .	
	The area under the graph is the distance.	