	Equations of a tangent to a curve	
1.	Find the equation of the tangent to the curve $y = x^3 - 4x^2 + 2x - 1$ at point P where $x = 2$	5
2.	Find the equation of the tangent to the parabola $y = 4x - x^2$ at the origin (0,0)	4
3.	Find the equation of the tangent to the curve $y = 5x^2 + 2$ at the point (-1, 7)	4
4.	Find the equation of the tangent to the parabola $y = 4x^3 - 2$ at the point where $x = -1$	5
5.	Find the equation of the tangent to the curve $y = (2x - 1)^3$ at the point (1,1)	5

	Equations of a tangent to a curve - Answers	
1	Know to differentiate $\frac{dy}{dx} =$ Differentiate the function $3x^2 - 8x + 2$ Find the gradient of the tangent by substituting $x = 2$ into the derivative $m = -2$ Find the y coordinate of P by substituting into the original curve $y = -5$ Find the equation of the tangent $y + 5 = -2(x - 2)$ **Or** $y = -2x - 1$	
2	Know to differentiate $\frac{dy}{dx} =$ Differentiate the function $4 - 2x$ Find the gradient of the tangent by substituting $x = 0$ into the derivative $m = 4$ Find the equation of the tangent $y + 0 = 4(x - 0)$ **Or** $y = 4$	
3	Know to differentiate $\frac{dy}{dx} =$ Differentiate the function $10x$ Find the gradient of the tangent by substituting $x = -1$ into the derivative $m = -10$ Find the equation of the tangent $y - 7 = -10(x + 1)$ **Or** $y = -10x - 3$	
4	Know to differentiate $\frac{dy}{dx} =$ Differentiate the function $12x^2$ Find the gradient of the tangent by substituting $x = -1$ into the derivative $m = -12$ Find the y coordinate of the point by substituting into the original curve $y = -6$ Find the equation of the tangent $y + 6 = -12(x + 1)$ **Or** $y = -12x - 18$	
5	Know to differentiate $\frac{dy}{dx} =$ Differentiate the composite function $3(2x - 1)^2 \times 2$ $= 6(2x - 1)^2$ Find the gradient of the tangent by substituting $x = 1$ into the derivative $m = 6$ Find the equation of the tangent $y - 1 = 6(x - 1)$ **Or** $y = 6x - 5$	