Introduction to Differentiation

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Equation of curve	Gradient Function $\frac{dy}{dx}$	Gradient of the curve at these points		
		$x=2$	$x=-1$	$x=0$
$y=x^4$				
$y=x^2-5$				
$y=3x-9$				
$y=10x^2$				
$y=(x+3)(x-6)$				
$y=\frac{x^2+x^3}{x}$				
$y=x(x^5-7x)$				
$y=7-3x^3$				
$y=19x+4x^2-x^3$				
$y=\frac{x^2\times x^3}{x}$				
$y=1-3x+x^4$				
$y=\frac{1}{2}x^2$				
$y=\frac{1}{4}x+2$				
$y=\frac{(x^2+3x)(1-x)}{x}$				
$y=\frac{2}{3}x^2$				

Solutions

Equation of curve	Gradient Function $\frac{dy}{dx}$	Gradient of the curve at these points		
		$x=2$	$x=-1$	$x=0$
$y=x^4$	$4x^3$	32	-4	0
$y=x^2-5$	$2x$	4	-2	0
$y=3x-9$	3	3	3	3
$y=10x^2$	$20x$	40	-20	0
$y=(x+3)(x-6)$	$2x-3$	1	-5	-3
$y=\frac{x^2+x^3}{x}$	$1+2x$	5	-1	1
$y=x(x^5-7x)$	$6x^5-14x$	164	8	0
$y=7-3x^3$	$-9x^2$	-36	-9	0
$y=19x+4x^2-x^3$	$19+8x-3x^2$	23	8	19
$y=\frac{x^2\times x^3}{x}$	$4x^3$	32	-4	0
$y=1-3x+x^4$	$-3+4x^3$	29	-7	-3
$y=\frac{1}{2}x^2$	x	2	-1	0
$y=\frac{1}{4}x+2$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$
$y=\frac{(x^2+3x)(1-x)}{x}$	$-2x-2$	-6	0	-2
$y=\frac{2}{3}x^2$	$\frac{4}{3}x$	$\frac{8}{3}$	$-\frac{4}{3}$	0