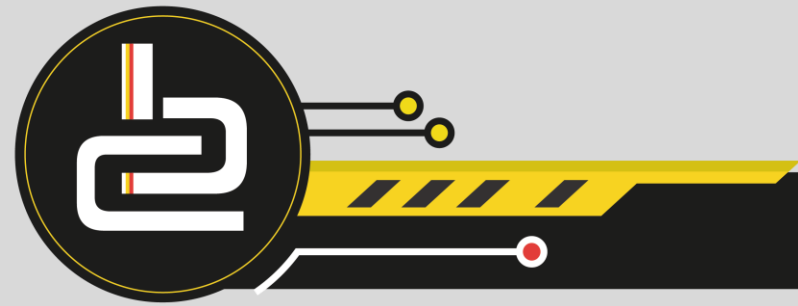




It's the way we're *wired*.

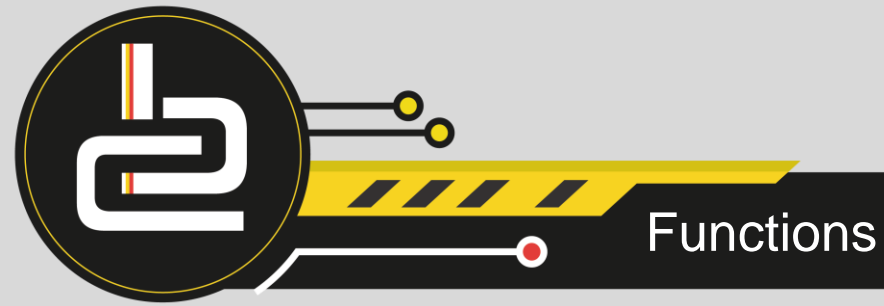
GRADE 12 **MATHS**

Charmaine



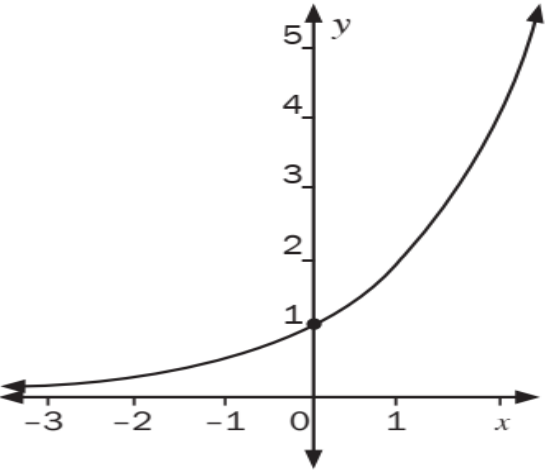
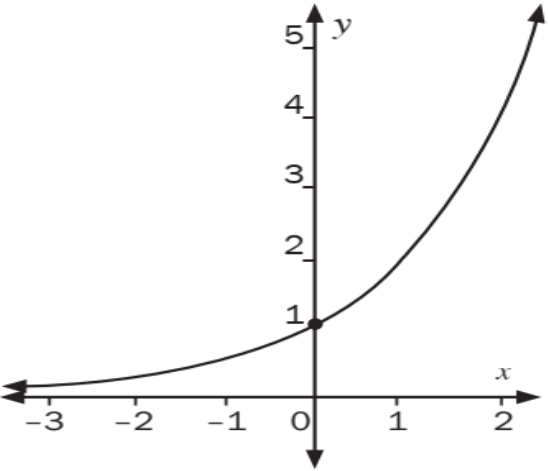
FUNCTIONS

An **exponential function** can be represented with a general formula
 $y = ab^{(x+p)} + q$ where $b > 0$



FUNCTIONS

Shape and properties of an exponential function

$y = b^x; b > 1$	$y = b^x; 0 < b < 1$
	
<ul style="list-style-type: none">• The graph passes through the point (0; 1).• Domain: $x \in \mathbb{R}$• Range: $y > 0$ but for $y = b^x + q$, the range will be at $y > q$.• The graph is smooth, continuous and an increasing function.• Asymptote is at $y = 0$ but for $y = b^x + q$, the horizontal asymptote will be at $y = q$.	<ul style="list-style-type: none">• The graph passes through the point (0; 1).• Domain: $x \in \mathbb{R}$• Range: $y > 0$ but for $y = b^x + q$, the range will be at $y > q$.• The graph is smooth, continuous and a decreasing function.• Asymptote is at $y = 0$ but for $y = b^x + q$, the horizontal asymptote will be at $y = q$.
NOTE: The two functions are a reflection of each other about the y -axis.	

