

Student Activity 7b

For the cubic function $f(x) = x^3 - 2x^2 - x + 2$ fill in the table below using the graph of the function. Mark the points on the graph.

$h(x) = f(x) + 1$ Write $h(x)$ in the form $h(x) = ax^3 + bx^2 + cx + d$.

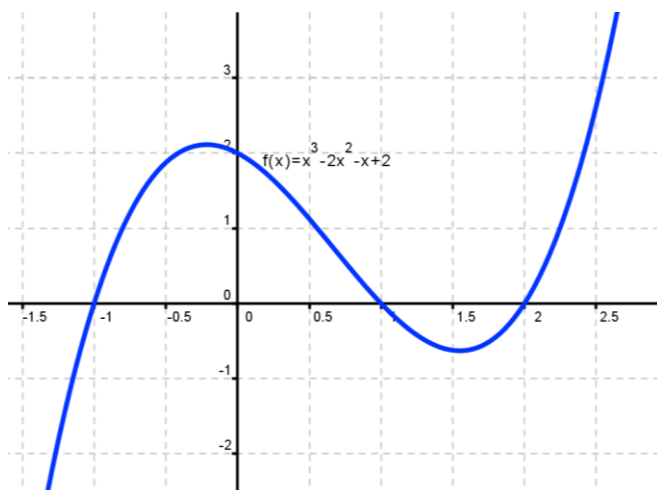
Fill in the y values for $h(x)$ using the fact that $h(x) = f(x) + 1$.

Plot the points for function $h(x)$ and draw the graph of the function $h(x)$, on the same axes and scales as the graph of $f(x)$.

x	$f(x) = x^3 - 2x^2 - x + 2$	$h(x) =$
-1.5		
-1		
-0.5		
0		
1.5		
2		
2.5		

$f(x) = x^3 - 2x^2 - x + 2$

$h(x) = f(x) + 1$



	Real Roots of $f(x) = 0$	Turning points	Local Max. point	Local Min. point
$y = f(x)$				
$y = h(x)$				

How many real roots has $y = h(x)$?

Explain your answer.