Student Activity 7a

Fill in the table for the cubic function $f(x) = x^3 - 12x^2 + 36x - 7$. Mark the points on the graph.

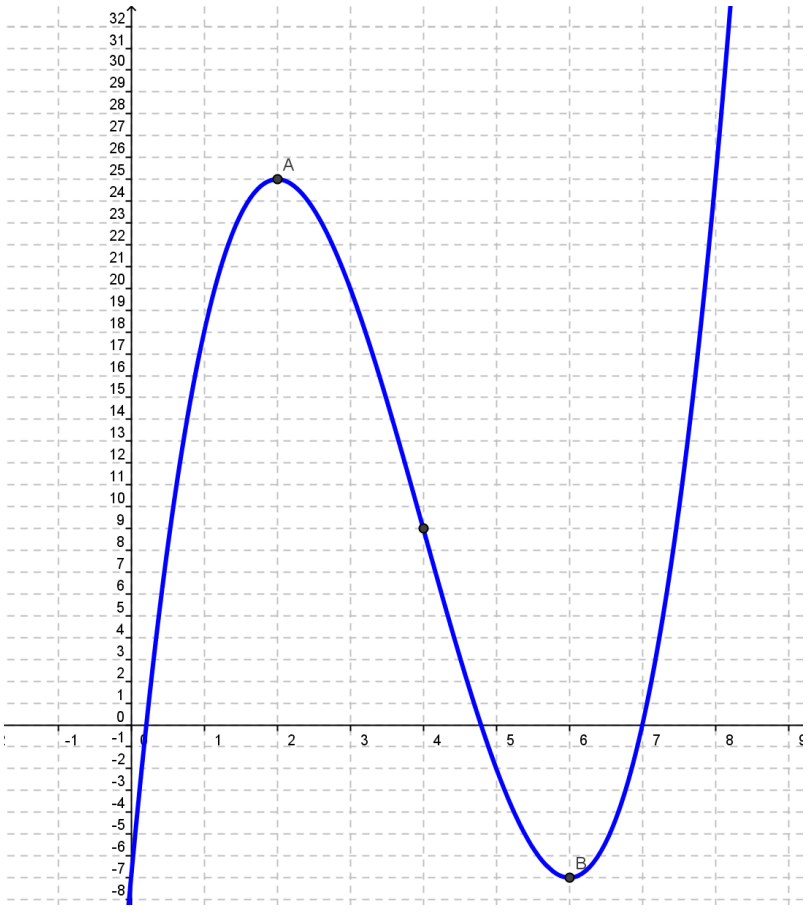
$k(x) = f(x) + 7$ **Write** $k(x)$ **in the form** $ax^3 + bx^2 + cx + d$.

Fill in the y **values for** $k(x)$ **in the table below using the fact that** $k(x) = f(x) + 7$.

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

x	$f(x) = x^3 - 12x^2 + 36x - 7$	$k(x) =$
0		
2		
4		
6		
8		

$f(x) = x^3 - 12x^2 + 36x - 7$



How many real roots has the function $f(x)$?

Estimate the real roots of $f(x) = 0$ from the graph of function $f(x)$.

How many real roots has the function $k(x)$?

Use the roots of $k(x)$ to form its equation $k(x) = x^3 - 12x^2 + 36x$