

Task 3

Graphing in the Form $y = af(k(x - d)) + c$

Due: November 16, 2015

1. Create a function, $f(x)$, that is **cubic**, with no symmetry, and decreasing on $(-\infty, \infty)$
2. Create a function, $g(x)$, that is **quartic**, with even symmetry, and passes through the point $(3,6)$ and y-intercept $\neq 0$.
3. Create a function, $h(x)$, that is **logarithmic**, and with two reflections.
4. Create a function, $j(x)$, that is **sinusoidal** and expressed in radians, and period larger than 2π .
 - All functions should be able to be clearly visible on the window $0 \leq x \leq 20$, $0 \leq y \leq 20$.
 - All functions should be graphed on the same graph.
 - All functions should be unique (i.e. different than your peers)
5. Make up a **real life situation** with 4 parts, where each part can be modelled by $f(x)$, $g(x)$, $h(x)$, and $j(x)$. Describe the situation and explain what the four graphs represent.
6. Make up 4 questions about your situation and answer them yourself.