Group Memebers: _____ _____

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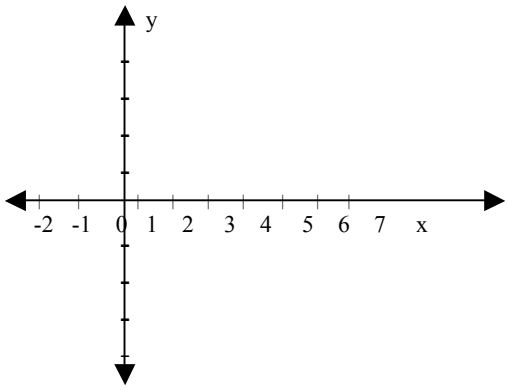
Classwork 5 – Curve Sketching

1. Sketch a graph of a differentiable function $f(x)$ over the closed interval $[-2, 7]$, where $f(-2) = f(7) = -3$ and $f(4) = 3$. The roots of $f(x)$ occur at $x = 0$ and $x = 6$, and $f(x)$ has the properties indicated in the table below.

x	$-2<x<0$	$x = 0$	$0<x<2$	$x = 2$	$2<x<4$	$x = 4$	$4<x<7$
$f'(x)$	positive	0	positive	1	positive	0	negative
$f''(x)$	negative	0	positive	0	negative	0	negative
$f(x)$							



2. Sketch function h(x) from the following information:
   a) $h(-x) = -h(x)$
   b) $\lim_{x \to 0^+} h(x) = \infty$
   c) $\lim_{x \to \infty} h(x) = 0$
   d) for $x>0$, $h(x) = 0$ only at $x = 1$
   e) for $x>0$, $h'(x) = 0$ only at $x = 2$
   f) for $x>0$, $h''(x) = 0$ only at $x = 3$