Group Quiz 3
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Math 148 – Fall 2011
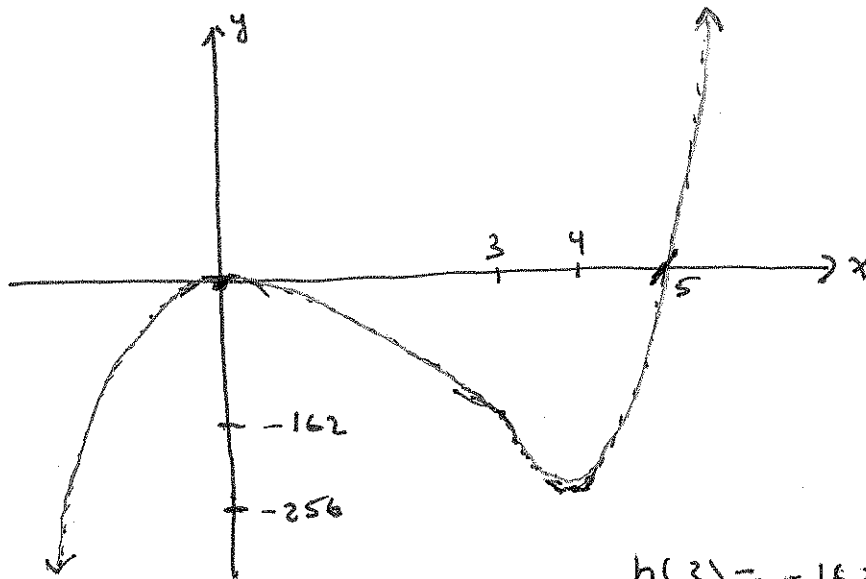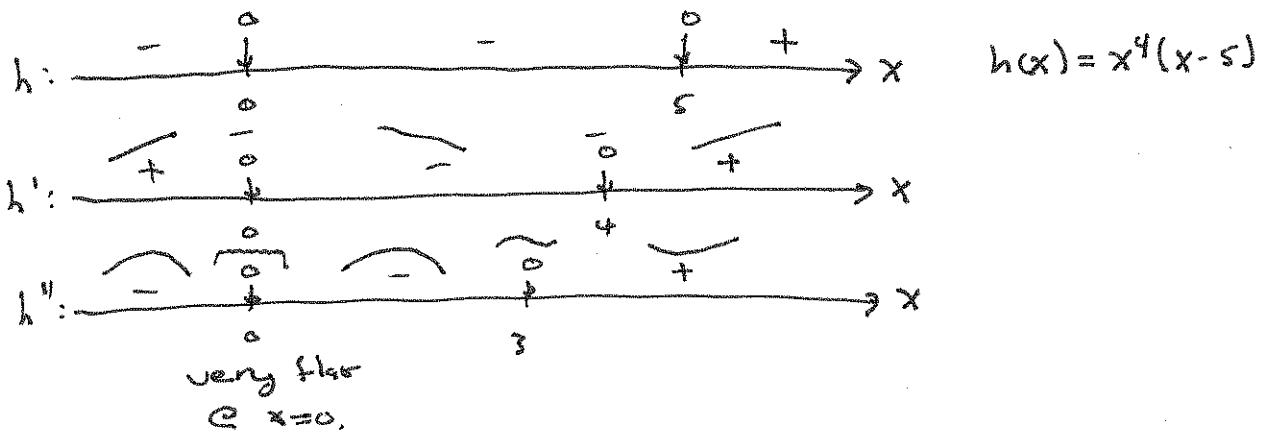
Name: _____ KEY _____

No work = no credit

No calculators

1.) Use calculus (sign diagrams etc.) to carefully sketch $h(x)$ given $h(x) = x^5 - 5x^4$, $h'(x) = 5x^3(x - 4)$, and $h''(x) = 20x^2(x - 3)$.
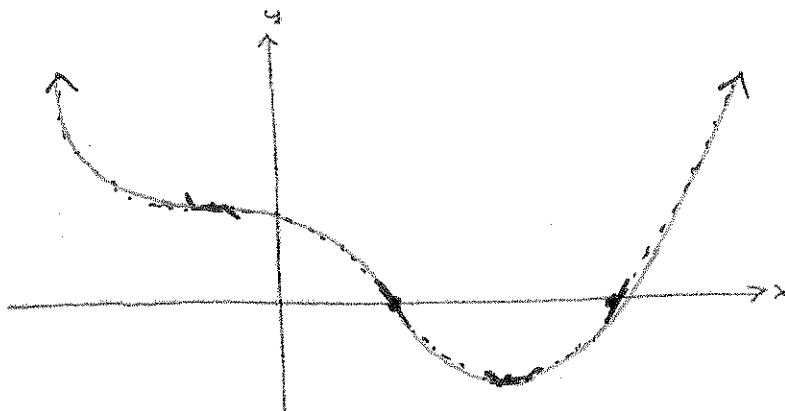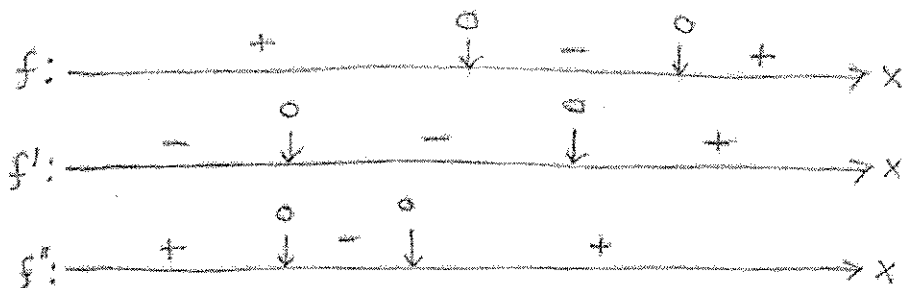
Include all relative maxima, relative minima, and points of inflection.

$h(x) = x^4(x - 5)$

very flat @ x=0.

$h(3) = -162$
$h(4) = -256$ } calculators ok for this & to check the graph.

2.) Use the given sign diagrams of f, its derivative, and second derivative to sketch a graph of f that captures all of its important features (intercepts, max/mins, points of inflection, cusps, ...).

3.) Consider the graph of $g(x)$ given below and use the graph to complete the sign diagrams for g, its derivative, and second derivative. Use the same scale on the sign diagrams as is given in the graph itself.