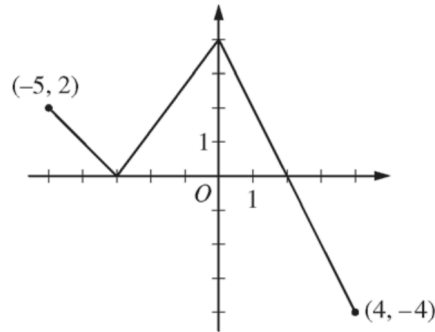


Present neatly on separate paper. Justify for full credit. No Calculators.

Name _____ Score _____ 10 minutes **Weight: 5**

1)



Graph of f

The function f is defined on the closed interval $[-5, 4]$. The graph of f consists of three line segments and is shown in the figure above. Let g be the function defined by $g(x) = \int_{-3}^x f(t) dt$.

- Find $g(3)$.
- On what open intervals contained in $-5 < x < 4$ is the graph of g both increasing and concave down? Give a reason for your answer.
- The function h is defined by $h(x) = \frac{g(x)}{5x}$. Find $h'(3)$.
- The function p is defined by $p(x) = f(x^2 - x)$. Find the slope of the line tangent to the graph of p at the point where $x = -1$.