

Math 105 Quiz 2 9/21/12 §1.6,§1.7, §2.1

Name:

Show all work for credit. Give brief but concise explanations.

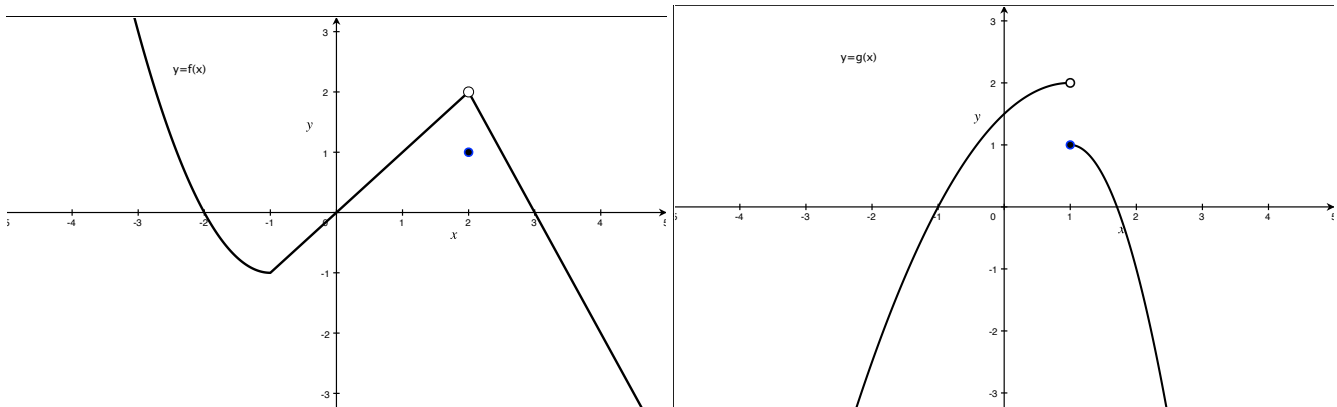
1. $f(x) = 2x^3 - 3x^2 - 12x$, $f'(x) = 6x^2 - 6x - 12$, and $f''(x) = 12x - 6$.

(a) Find the intervals when $f'(x)$ is increasing and decreasing.

(b) Where are the stationary points of $f(x)$? Classify each as a maximum, minimum, or neither. Give your reason.

(c) Does $f(x)$ have an inflection point? If so, where? How do you know it is an inflection point?

2. The graphs of f and g are given. Use them to evaluate the limit, if it exists. If the limit does not exist, explain why.



(a) $\lim_{x \rightarrow 2} f(x)$

(b) $\lim_{x \rightarrow 1^-} [f(x) + g(x)]$

(c) $\lim_{x \rightarrow 0} f(x)g(x)$