Math 1271 Quiz 4

February 20, 2014

Name: _____

TA: _____

NO CALCULATORS. NO HANDHELD DEVICES. NO BOOKS OR REFERENCE
MATERIALS OF ANY KIND.

Time allowed: 20 minutes; Grader: Ashley Earls. Good luck!

1. (*35 points*) Let $f(x) = x^3 - 6x^2 + 5x - 29$. Find all x-values where the tangent line to f at x is parallel to $y = -4x$. (You do not need to give the corresponding y-values.)

2. (*15 points, no partial credit*) True or false? Let $f(x)$ be any function that is concave up on $a < x < b$. Then $f(x)$ is increasing on $a < x < b$.

   True

   False

3. (*15 points, no partial credit*) True or false?
$$\frac{d}{dx}(\sin\ x) = \frac{d}{dx}\left(\frac{d}{dx}(\cos\ x)\right).$$

True

False

4. (*35 points*) Let $f(x) = \dfrac{12e^x + 7x^4}{x - 3}$. Compute $f'(x)$.