Math1210 Quiz 11 (3.5, 3.6, 3.8) Summer, 2009 Dylan Zwick

Name _____ Date _____

Instructions: Please show all of your work as partial credit will be given where appropriate, **and** there may be no credit given for problems where there is no work shown. All answers should be completely simplified, unless otherwise stated.

1. (8 points) For $f(x)=\frac{2(x-5)^2}{x}$

   (with derivatives given by $f'(x)=\frac{2x^2-50}{x^2}$, $f''(x)=\frac{100}{x^3}$)

(a) Find the x-value of the vertical asymptote. (1 point)

V.A. : _____

(b) Fill in the sign line for $f'(x)$. (2 points)

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(c) Find all local min and max points, if there are any. (2 points)

Max points: _____

Min points: _____

(d) Fill in the sign line for $f''(x)$. (2 points)

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(e) Find all inflection points, if there are any. (1 point)

Inflection points: _____

2. (4 points) For $f(x)=2x^2-5x+1$ on [0, 3], decide whether or not the Mean Value Theorem (for derivatives) applies. If it does, find all acceptable values of c. If not, then state the reason.

MVT applies: True or False (circle one)

If true, then c = _____

If false, then why? _____

3. (3 points) Evaluate.

$$\int (3x^4-\sin x+\sqrt[5]{x^3})\,dx$$

Answer 3: _____