Quiz : The Fourth

5 Oct 2012

This test totals 25 points and you get 20 minutes to do it. Good luck!

1. (1 pt) Write the formula for the chain rule
   \[(f \circ g)'(x) = \text{______________________________}\]

2. Find \(h'(x)\) using the rules. If you don’t write the steps down, you will not get partial credit.
   
   (a) (5 pts) \(h(x) = \cos(\sin x)\)
(b) (5 pts) \( h(x) = \sqrt{\sin x \cos x} \)

(c) (5 pts) \( h(x) = \cos^{10}(6x - \pi) \)
(d) (5 pts) \( h(x) = \tan \left( \frac{x - 2}{x + 2} \right) \)

3. Find the following limits.

(a) (1 pt) \( \lim_{h \to 0} \frac{\sin h}{h} = \)

(b) (2 pts) \( \lim_{x \to 0} \frac{\sin x}{10x} = \)

(c) (1 pt) \( \lim_{x \to 0} \frac{\sin(2x)}{x} = \)