Quiz 4

Name:

2017/02/16

This quiz has 5 questions worth 10 points on 1 pages. Try to do as many questions as possible. You can use your calculator.

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1. (2 points) Differentiate $y = \frac{\tan(x)}{\cos(x)}$.

   Solution:
   $$\sec^3(x) + \tan^2(x)\sec(x)$$

2. (2 points) Differentiate $g(x) = (kx)^3 - (mx)^2$ where k and m are constants.

   Solution:
   $$3k^3x^2 + 2m^2x$$

3. (2 points) Differentiate $f(q) = \cos(q)\sin(q)$

   Solution:
   $$\cos^2(q) - \sin^2(q)$$

4. (2 points) Differentiate $h(m) = m^n - n^m$ where n is a constant.

   Solution:
   $$nm^{n-1} - n^m \ln(n)$$

5. (2 points) Differentiate $f(t) = \frac{at+b}{ct+d}$ where a, b, c, d are all nonzero constants.

   Solution:
   $$\frac{ad - bc}{(ct+d)^2}$$