

**Practice Problems Set 2 for the Derivative Gateway Test - 2003**

Find the derivatives of the following functions:

1.  $y = \cos\left(\frac{2x+1}{x^2+9}\right)$

2.  $f(x) = \arctan(\sin x)$

3.  $g(y) = \frac{y^2+16}{\pi} + \frac{e}{y^3}$

4.  $z = \frac{e^{t^2}}{t^2+25}$

5.  $w = \ln(1 + \sec^2 x)$

6.  $h(x) = \tan^5(3x + 7)$

7.  $u = \sqrt{1 + \arcsin x}$

8.  $K = \sec \sqrt{u^2 + 1}$

9.  $y = \cos^2 t + \sin^2 t$

10.  $v = e^{e^t}$