

Name: _____ Score: _____

Instructions: There are 10 functions on this exam. Compute their derivatives using our derivative rules. You must completely correctly calculate at least 8 of the 10 derivatives in order to pass. You may not use a calculator, and you do not need to simplify!

1. $f(x) = 2x^3 - x^2 + 2$

2. $g(y) = 3^y - \frac{1}{y}$

3. $h(x) = (1 - x)(x + e^x)$

4. $k(w) = \frac{1 + 2w}{3 - 4w}$

5. $p(t) = e^t \cos t$

$$6. F(x) = \frac{\sec(x)}{2 - \tan(x)}$$

$$7. G(y) = (1 + y + y^2)^{99}$$

$$8. H(z) = \frac{1}{\sqrt{z^2 - 1}}$$

$$9. K(w) = \arcsin(3w) - \arctan(w^2 + 1)$$

$$10. P(t) = \left(\frac{t-1}{t^2+t+1} \right)^4$$