

## Mathematics 122

### Quiz #16

Name: \_\_\_\_\_

Compute the following derivatives. In these problems  $a$ ,  $b$ , and  $c$  are constants.

(1)  $y = 3(2x + 1)^{17}$   $y' =$  \_\_\_\_\_

(2)  $A = 6(3e^r + r)^5$   $\frac{dA}{dr} =$  \_\_\_\_\_

(3)  $w = 3 \ln(z^3 + z)$   $\frac{dw}{dz} =$  \_\_\_\_\_

(4)  $C(q) = 5a\sqrt{q^2 + 1}$   $C'(q) =$  \_\_\_\_\_

(5)  $F(t) = be^{\pi^2} + ce^{t^2}$   $F'(t) =$  \_\_\_\_\_