

MATH 251 - Derivative Quiz One

1. $f(x) = \sin(\sqrt{x^2 + 1})$

$$\frac{d}{dx}f(x) =$$

2. $r(t) = \frac{1}{3t^2} - \sin^2\left(\frac{\pi}{3}\right).$

$$r'(t) =$$

3. $g(z) = \frac{f(z^2 + 2z + 3)}{z}.$

$$\begin{array}{ll} f(1) = 7; & f'(1) = 4; \\ f(4) = -2; & f'(4) = 3; \\ f(6) = 1; & f'(6) = -5. \end{array}$$

$$g'(1) =$$

4. $y(x) = x^2 \cdot \tan(x^2)$

$$\frac{dy}{dx} =$$

5. $G(\alpha) = \sec\left(\frac{\alpha}{2} + \pi\right)$

$$\frac{dG}{d\alpha} =$$