(1) [**2 points**] Differentiate

$$h(\theta) = \theta \csc(\theta) - \cot(\theta)$$

(2) [**3 points**] Differentiate

$$y = \frac{\sin(x)}{x^2}$$

(3) [**2 points**] Differentiate

$$y = \sin(4x)$$

(4) [**3 points**] Differentiate

$$y = \frac{r}{\sqrt{r^2 + 1}}$$

(5) [**5 points**] Differentiate

$$y = \sin\left(\tan\sqrt{\sin x}\right)$$