

Name \_\_\_\_\_

- You have 15 minutes
- No calculators
- Show sufficient work

1. (3 points) Compute  $\frac{dw}{dq}$  given that  $w^2q^3 = \sin(w^2) + q^5$ .

2. (2 points) Compute  $f'(x)$  given that  $f(x) = \tan^{-1}(x^3)$ .

3. (3 points) Compute  $h'(t)$  given that  $h(t) = \ln(\tan(t^5 + 2t))$ .

4. (2 points) Compute  $\frac{dy}{dx}$  given that  $y = (\sec x)^{x^3}$ .