

**Vocabulary/Definitions**

- $\frac{d}{dx} \ln(x) =$
- $\frac{d}{dx} \arctan(x) =$
- $\frac{d}{dx} \arcsin(x) =$
- $\frac{d}{dx} f^{-1}(x) =$

**Understand**

1. Use the method the book uses to find  $\frac{d}{dx} \arctan(x)$  to find  $\frac{d}{dx} \arccos(x)$ . You will want to use the fact that  $\sin(\arccos(x)) = \sqrt{1 - x^2}$ .
2. Find the derivative of  $g(x) = 3x \ln(\sqrt{x} - 3)$ .
3. Find the derivative of  $f(y) = 3 \arctan(3y - e^y)$ .