

Inverse Trig Derivatives, Logarithmic Derivatives

1. Find the derivatives of:

(a) $f(x) = 6 \arccos(x)$

(b) $f(x) = \arctan(x^3 + x^{-1})$

(c) $f(x) = \ln(x^4 + 5x)$

(d) $f(x) = 5 \ln(\cos(x))$

(e) $f(x) = \ln(\sin(e^x))$

2. If a particle has moved

$$f(t) = \ln\left(\frac{t^3}{3} + \frac{7t^2}{2} + 10t + 4\right)$$

after t seconds, what is it at rest?