

Section 3.5: Implicit Differentiation

- (1) In this section, we learn about implicit differentiation which allows us to find the derivative $\frac{dy}{dx}$ of a function $y = f(x)$ without having to solve for y . It even works when y is not a “function” of x . Explain how implicit differentiation is related to the chain rule.

- (2) When doing implicit differentiation, when do we get a $\frac{dy}{dx}$ term?

- (3) When we solve for $\frac{dy}{dx}$ at a certain point, what does that value tell us?

(4) Explain how to find $\sin(\arccos(x))$.

(5) We can use implicit differentiation to find the derivative of the inverse trig functions.
Find $\frac{d}{dx} \arctan(x)$.

Extra Practice in Book: 3.5: Derivative Rules (5-20, 49-60) until comfortable with all rules. 27, 31, 35,