

$$17. y = 2 \sqrt[4]{4-x^2}$$

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$$y = 2(4-x^2)^{1/4}$$

$$y = X^n$$

$$y' = n \cdot X^{n-1}$$

$$y' = 2 \cdot \frac{1}{4} (4-x^2)^{-3/4} \cdot -2x$$

$$y' = -\cancel{4}x \cdot \frac{1}{\cancel{4}} (4-x^2)^{-3/4}$$

$$\frac{-1x}{(4-x^2)^{3/4}} \rightarrow \frac{-1x}{\sqrt[4]{(4-x^2)^3}}$$

$$21.) f(t) = \left( \frac{1}{t-3} \right)^2$$

$$\left( (t-3)^{-1} \right)^2$$

$$f = (t-3)^{-2}$$

$$f' = -2(t-3)^{-3} \cdot 1$$

$$\frac{-2}{(t-3)^3}$$

$$(x^2)(x^3)$$

$$(x^a)^b = x^{ab}$$

$$x^a \cdot x^b = x^{a+b}$$

# "Differentiability"

ability to be different

Subtraction



Change

→ slope

→ derivative

A function is differentiable at a point if there is a unique tangent line with a defined slope.



