

② Find $(f^{-1})'(a)$ for the function f and real number a if

$$f(x) = x^3 + 2x - 1 \text{ and } a = 2$$

* a is x -coord of inverse

* a is y -coord of f

$$2 = x^3 + 2x - 1$$

$$0 = x^3 + 2x - 3$$

$$x = 1 \text{ (calc)}$$

$$f : (1, 2)$$

$$f^{-1} : (2, 1)$$

* Find x -coord of f

* Find derivative of f at x -coord

$$\frac{1}{f'(f^{-1}(a))}$$

$$\frac{1}{f'(f^{-1}(2))}$$

$$\frac{1}{f'(1)}$$

$$\frac{1}{5}$$

$$f'(x) = 3x^2 + 2$$

$$f'(1) = 3 + 2 = 5$$