FINDING INVERSE OF A FUNCTION

* FUNCTION MUST BE 1:1

1. REPLACE $f(x)$ WITH y
2. INTERCHANGE x AND y
3. SOLVE FOR y
4. REPLACE y WITH $f^{-1}(x)$
5. IF NECESSARY MAKE $f^{-1}(x)$ 1:1 USING GRAPH

8. $f(x) = 9x+2$

① $y = 9x+2$

② $x = 9y+2$

③ $x-2 = 9y$

$\frac{x-2}{9} = \frac{9y}{9}$

$\frac{x-2}{9} = y$

④ $\boxed{f^{-1}(x) = \frac{x-2}{9}}$

9. $f(x) = x^3-2$

① $y = x^3-2$

② $x = y^3-2$

③ $x+2 = y^3$

$x+2 = y^{\frac{3}{1}}$

$(x+2)^{\frac{1}{3}} = (y^{\frac{3}{1}})^{\frac{1}{3}}$

$\sqrt[3]{x+2} = y$

④ $\boxed{f^{-1}(x) = \sqrt[3]{x+2}}$

10. $f(x) = \sqrt{x-3}$

① $y = \sqrt{x-3}$

② $x = \sqrt{y-3}$

③ $(x)^2 = (\sqrt{y-3})^2$

$x^2 = y-3$

$x^2+3 = y$

④ $f^{-1}(x) = x^2+3$

⑤ $\boxed{f^{-1}(x) = x^2+3,\ x \geq 0}$