

First Rule of Finding Inverses: ① switch  $x$  &  $y$   
② solve for  $y$

Examples:

$$\textcircled{1} y = \log_8 x$$

$$x = \log_8 y$$

$$x = \text{WE} \log_8 y$$

$$\boxed{8^x = y}$$

$$\textcircled{2} y = 7^x$$

$$x = 7^y$$

$$\boxed{\log_7 x = y}$$

$$\textcircled{3} y = (0.4)^x$$

$$x = (0.4)^y$$

$$\boxed{y = \log_{.4} x}$$

$$y = \log_4 x$$

$$x = \log_4 y$$

$$\boxed{y = 4^x}$$

$$y = 2 \log_4 x$$

$$\frac{x}{2} = \frac{2 \log_4 y}{2}$$

$$\frac{\quad}{2} = \frac{\quad}{2}$$

$$\frac{x}{2} = \log_4 y$$

$$y = 4^{\frac{x}{2}}$$

$$\textcircled{4} y = e^{x+2}$$

$$x = e^{y+2}$$

$$\log_e x = y+2$$

$$\log_e x - 2 = y$$

$$y = \ln x - 2$$

$$\textcircled{5} y = 2^x - 3$$

$$x = 2^y - 3$$

$$x+3 = 2^y$$

$$\log_2 (x+3) = y$$

$$\textcircled{6} y = \ln(x+1)$$

$$y = \log_e (x+1)$$

$$x = \log_e (y+1)$$

$$x = \text{weg}_{0_e} (y+1)$$

$$e^x = y+1$$

$$e^x - 1 = y$$