

# Inverses

- When graphs are reflected over  $y=x$  line.

$$f(x) \rightarrow f^{-1}(x)$$

points

\* switch  $x$  &  $y$

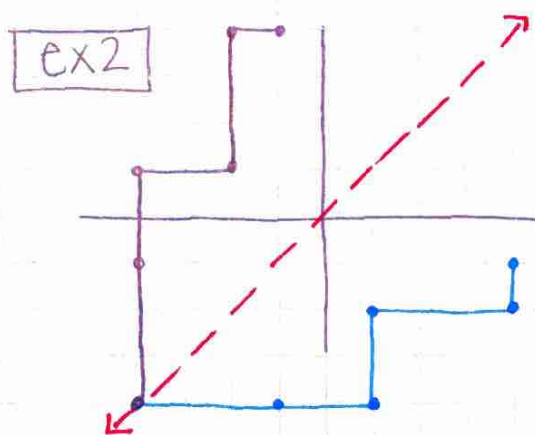
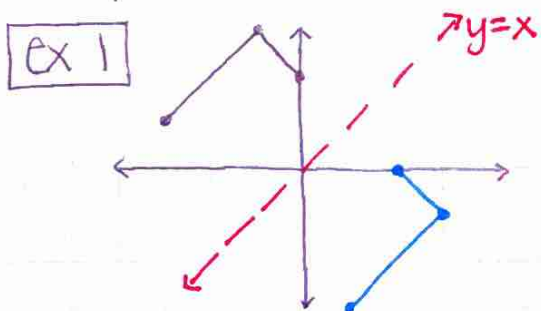
$$\begin{array}{l} A (-4, 1) \\ B (2, -3) \\ C (-5, -6) \\ D (7, 9) \end{array}$$

inverse  $\rightarrow$

$$\begin{array}{l} A (1, -4) \\ B (-3, 2) \\ C (-6, -5) \\ D (9, 7) \end{array}$$

graphs

\* pick some pts to invert



equations

\* switch  $x$  &  $y$ , then solve for  $y$ .

ex 3  $y = 9x - 4$

switch  $x = 9y - 4$

$$\frac{x+4}{9} = y$$

ex 4  $f(x) = \frac{1}{3}x + 7$   
 $y = \frac{1}{3}x + 7$

$$x = \frac{1}{3}y + 7$$

$$3(x-7) = \frac{1}{3}y \cdot 3$$

$$3(x-7) = y$$

$$3x - 21 = y$$

$$3x - 21 = f^{-1}(x)$$