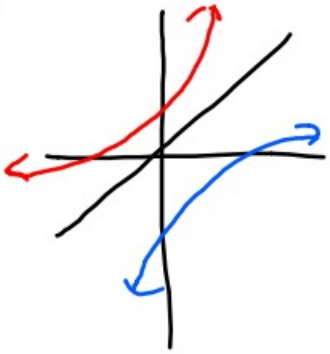
10-15-19 1st Try

① Find the inverse of

$f(x) = 2x - 3$



$y = 2x - 3$

$x = 2y - 3$

Solve for y: $+3 \quad +3$

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

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

② Find $f^{-1}(x)$ if $f(x) = x^2 - 2$

$y = x^2 - 2$

$x = y^2 - 2$

$+2 \quad +2$

$\sqrt{x+2} = \sqrt{y^2}$

$y = \pm\sqrt{x+2}$

$x^2 = 25$

Interval notation

① $2 < x \leq 5$

starting point — lowest #

ending point — largest #

$(2, 5]$

does not include it ← (2

does include it → 5]

② $x \geq 10$

$[10, \infty)$

③ $x \leq 2$

$(-\infty, 2]$

④ $x > 100$ $(100, \infty)$

⑤ $2 \leq x \leq 15$ $[2, 15]$

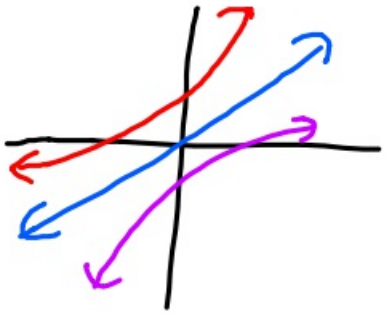
⑥ $x \leq -8$ $(-\infty, -8]$

$(2, 3)$ $(4, 5)$ $(2, 10)$

10-15-19 4th Try

① Find the inverse of

$f(x) = 3x - 5$.



$y = 3x - 5$

$x = 3y - 5$

$+5 \quad +5$

$\frac{x+5}{3} = \frac{3y}{3}$

$y = \frac{x+5}{3}$

$f^{-1}(x) = \frac{x+5}{3}$

② Give the inverse of

$f(x) = x^2 + 5$

$y = x^2 + 5$

$x = y^2 + 5$

$-5 \quad -5$

$\sqrt{x-5} = \sqrt{y^2}$

$y = \pm\sqrt{x-5}$

$f^{-1}(x) = \pm\sqrt{x-5}$

$x^2 = 25$

$x = \pm 5$

Interval Notation

① $2 < x \leq 5$

$(2, 5]$

↑ starts lowest number

↑ end highest number

② $x \geq 3$

$[3, \infty)$

③ $x < 5$

$(-\infty, 5)$

④ $-4 \leq x < 5$ $[-4, 5)$

⑤ $x \leq 100$ $(-\infty, 100]$

⑥ $x > 25$ $(25, \infty)$