

$$1) x^2$$

$$2) \frac{1}{x}$$

$$3) \sqrt{x}$$

$$4) (4-x^2) - (2-x)$$

$$4-x^2-2+x$$

$$-x^2+x+2$$

$$(-\infty, \infty)$$

$$5) x+3$$

$$(-\infty, 3) \cup (3, \infty)$$

$$9-x^2$$

$$3-x$$

$$x^2-9$$

$$x-3$$

$$(x+3)(x-3)$$

$$6)$$

$$(2x^2+3x-9) + (x^3-9x+4)$$

$$2x^2+3x-9+x^3-9x+4$$

$$x^3+2x^2-6x+4$$

$$(-\infty, \infty)$$

7) $-6 + 4(x)$

$-4x+6$ $(-\infty, \infty)$

$\sqrt{-6+4x^2}$

$4x^2=6$

$(-\infty, -\sqrt{\frac{3}{2}}) \cup (-\sqrt{\frac{3}{2}}, \sqrt{\frac{3}{2}}) \cup (\sqrt{\frac{3}{2}}, \infty)$

$x^2=6$
 $x=\pm\sqrt{6}$

8) $p(x) = \sqrt{x}$

1) \sqrt{x}

1) $5\sqrt{-4(x-\frac{3}{4})} - 2$

2) $10\sqrt{-(x-\frac{3}{4})} - 2 = f(x)$

3) Move $p(x)$ to the right $\frac{3}{4}$: $\sqrt{x-\frac{3}{4}}$

4) Flip $p(x)$ across the y-axis: $\sqrt{-x-\frac{3}{4}}$

5) Stretch $p(x)$ vertically by 10: $10\sqrt{-(x-\frac{3}{4})}$

6) Move $p(x)$ down by 2: $10\sqrt{-(x-\frac{3}{4})} - 2$

7

20

$-\frac{3\sqrt{2}}{2} - 2$

$(x, p(x))$

$(0, 0)$

$(1, 1)$

$(x, p(x))$

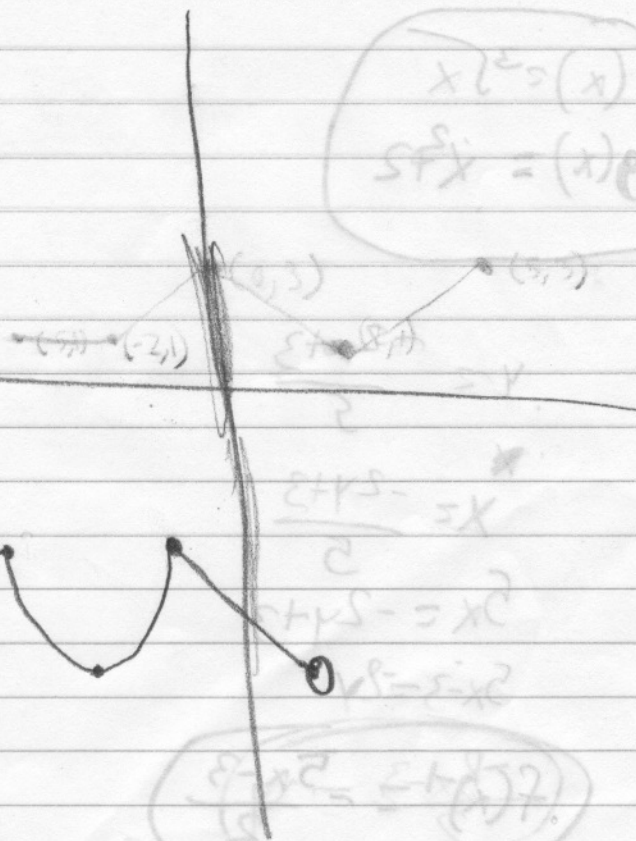
$(-1, 1)$

$(1, -1)$

9)

$f(x)$ $(0,3)$
 $(-2,1)$
 $(-5,1)$
 $(2,1)$
 $(5,3)$

$(-3,-10)$
 $(-5,-6)$
 $(-8,-6)$
 $(-1,-6)$
 $(-2,-10)$



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

(15)

(13)

10)

$$\frac{3}{x+5-7}$$

$$\frac{3}{x-2}$$

$$(-\infty, 2) \cup (2, \infty)$$

11)

$$\begin{aligned} f(x) &= \sqrt[3]{x} \\ g(x) &= x^2 + 2 \end{aligned}$$

12)

$$y = \frac{-2x+3}{5}$$

$$x = \frac{-2y+3}{5}$$

$$5x = -2y+3$$

$$5x-3 = -2y$$

$$\frac{f(x)-1}{2} = \frac{5x-3}{2}$$

13)

$$\frac{5}{\sqrt{-2x+2}}$$

(01)

$$\frac{5}{5+}$$

$$(\infty, 5) \cup (5, \infty)$$

(4)

$$g(f(x)) = \log_2 \left(\frac{x \cdot 2^{x+1} - 5 + 5}{3} \right) - 1$$

$$\log_2 (2^{x+1}) - 1$$

$$x+1 - 1$$

(X)

$$f(g(x)) = \log_2 \left(\frac{x+5}{3} \right) - 5$$

$$\log_2 \left(\frac{x+5}{3} \right) = 5$$

$$x+5 = 3^5$$

(X)

15)



(-4, 1)
(1, 1)
(

