

$$1) y = \frac{1}{x+6} + 2$$

$$2) y = \frac{1}{x-5}$$

$$3) x \neq 6, -5$$

$$4) x \neq -3, 3$$

$$5) \text{VA: } x=5$$

$$\text{RD: } x=-5$$

$$\text{R: } x=4$$

$$\text{D: } (-\infty, -5) \cup (-5, 5) \cup (5, \infty)$$

$$6) \text{VA: } x=2, x=-3$$

$$\text{R: } x=-1$$

$$\text{D: } (-\infty, -3) \cup (-3, 2) \cup (2, \infty)$$

$$7) \text{VA: } x=5, x=-5$$

$$\text{D: } (-\infty, -5) \cup (-5, 5) \cup (5, \infty)$$

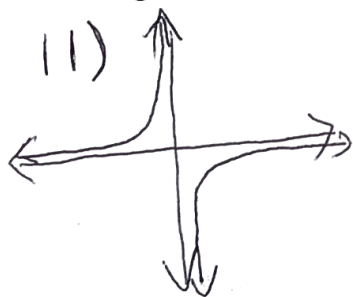
$$8) \text{VA: } x = -\frac{3}{2}$$

$$\text{RD: } x = 2$$

$$\text{D: } (-\infty, -\frac{2}{3}) \cup (-\frac{2}{3}, 2) \cup (2, \infty)$$

$$9) y = 0$$

$$10) y = 3$$

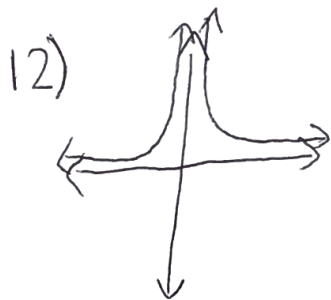


$$\text{VA: } x=0$$

$$\text{HA: } y=0$$

$$\text{D: } (-\infty, 0) \cup (0, \infty)$$

$$\text{R: } y \neq 0$$

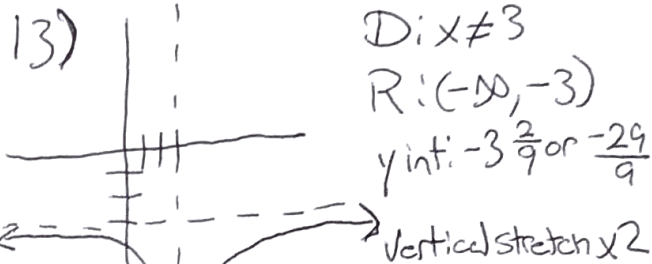


$$\text{VA: } x=0$$

$$\text{HA: } y=0$$

$$\text{D: } (-\infty, 0) \cup (0, \infty)$$

$$\text{R: } (0, \infty)$$

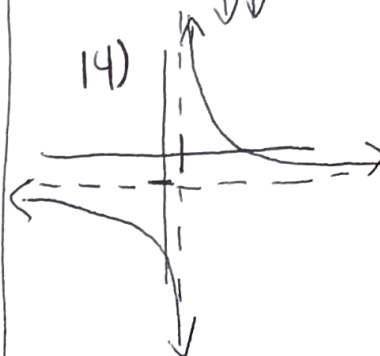


$$\text{D: } x \neq 3$$

$$\text{R: } (-\infty, -3)$$

$$y \text{ int: } -3\frac{2}{9} \text{ or } -\frac{29}{9}$$

Vertical stretch x 2



$$\text{D: } x \neq 1$$

$$\text{R: } y \neq -1$$

$$y \text{ int: } -4$$

Vertical stretch x 3

$$15) y = \frac{3}{x} + 2$$

$$16) y = \frac{-4}{x}$$

$$17) y = \frac{1}{x} + 2$$

$$18) \text{VA: None}$$

$$\text{HA: None}$$

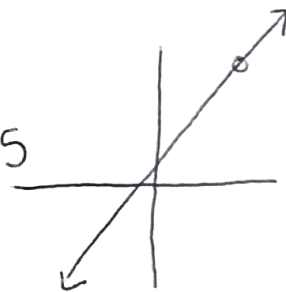
$$\text{RD (Hole): } x=5$$

$$\text{Root: } -1$$

$$\text{D: } x \neq 5$$

$$\text{R: } y \neq 6$$

$$y \text{ int: } (0, 1)$$



$$19) \text{VA: } x=2$$

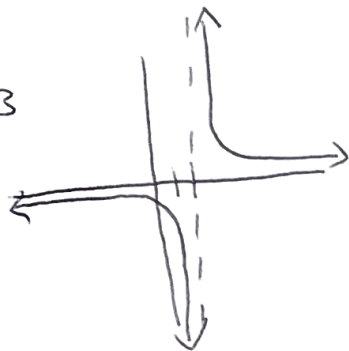
$$\text{RD (Hole): } x=3$$

$$\text{HA: } y=0$$

$$\text{D: } x \neq 2, 3$$

$$\text{R: } y \neq 0$$

$$y \text{ int: } (0, -\frac{1}{2})$$



$$20) a-3$$

$$x \neq -6$$

$$21) \frac{x+2}{x-4}$$

$$x \neq -7 \text{ or } 4$$

$$22) (0, \infty)$$

$$23) (0, \infty)$$

$$24) x = -2 \text{ mult: } 4$$

$$x = 9 \text{ mult: } 3$$

$$25) \downarrow \uparrow$$

$$26) (x-5)(x+2)(x-2)$$

$$27) x^3 - 4x^2 + 7x - 18 \frac{30}{x+2} \text{ (NO)}$$

$$28) (x-3)(2x-3)$$

$$29) \text{odd positive}$$

$$30) \text{Even Negative}$$