



โดย ASSIGNMENT

$$1. \quad y = \frac{4x+5}{2x-1} \quad 2x-1 \neq 0$$

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

$$\therefore D_{r_1} = \mathbb{R} - \left\{ \frac{1}{2} \right\}$$

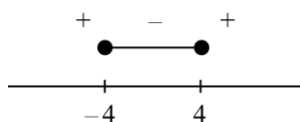
และ จาก $y = \frac{ax+b}{cx+d} \rightarrow R_r = \mathbb{R} - \left\{ \frac{a}{c} \right\}$

$$\therefore R_{r_1} = \mathbb{R} - \left\{ \frac{4}{2} \right\} = \mathbb{R} - \{2\}$$

$$2. \quad y = \sqrt{16-x^2} \quad 16-x^2 \geq 0$$

คูณ -1, $x^2-16 \leq 0$

$$(x-4)(x+4) \leq 0$$



$$\therefore D_{r_2} = [-4, 4]$$

$$y = \sqrt{16-x^2}$$

Min = 0 (เมื่อ $x = 4$)

Max = 4 (เมื่อ $x = 0$)

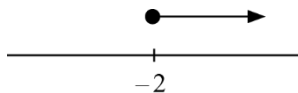
$$\therefore R_{r_2} = [0, 4]$$

3. $y = |x+3|-2$

$\therefore D_{r_3} = \mathbb{R}$

$y+2 = |x+3|$

$\underbrace{|x+3|}_{\geq 0} = \boxed{y+2} \quad \begin{matrix} y+2 \geq 0 \\ y \geq -2 \end{matrix}$



$\therefore R_{r_3} = [-2, \infty)$

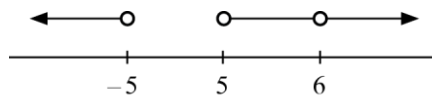
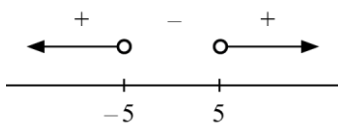
4. $y = \frac{3}{\sqrt{\boxed{x^2-25}}} + \frac{x+1}{\boxed{x-6}}$

$x^2 - 25 > 0$

$(x-5)(x+5) > 0$

$x-6 \neq 0$

$x \neq 6$



$\therefore D_{r_4} = (-\infty, -5) \cup (5, 6) \cup (6, \infty)$

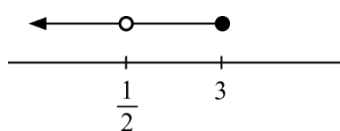
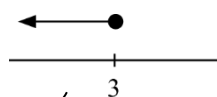
5. $y = \frac{|x+2|}{\boxed{2x-1}} + \sqrt{\boxed{3-x}}$

$2x-1 \neq 0$

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

$3-x \geq 0$

$3 \geq x$



$\therefore D_{r_5} = (-\infty, \frac{1}{2}) \cup (\frac{1}{2}, 3]$



6. $y = \sqrt{4-3x}$

Min = 0 (เมื่อ $x = \frac{4}{3}$)

Max $\rightarrow \infty$ (เมื่อ $x \rightarrow -\infty$)

$\therefore R_{r_6} = [0, \infty)$

7. $y = \sqrt{49-x^2}$

Min = 0 (เมื่อ $x = \pm 7$)

Max = 7 (เมื่อ $x = 0$)

$\therefore R_{r_7} = [0, 7]$

8. $y = \sqrt{x^2-64}$

Min = 0 (เมื่อ $x = \pm 8$)

Max $\rightarrow \infty$ (เมื่อ $x \rightarrow \infty$
หรือ $x \rightarrow -\infty$)

$\therefore R_{r_8} = [0, \infty)$

9. $y = \sqrt{x^2+25}$

Min = 5 (เมื่อ $x = 0$)

Max $\rightarrow \infty$ (เมื่อ $x \rightarrow \infty$
หรือ $x \rightarrow -\infty$)

$\therefore R_{r_9} = [5, \infty)$
