

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

$$m(x) = \frac{x+1}{(x-\sqrt{2})(x+\sqrt{2})}$$

$$VA: x = \sqrt{2}, x = -\sqrt{2}$$

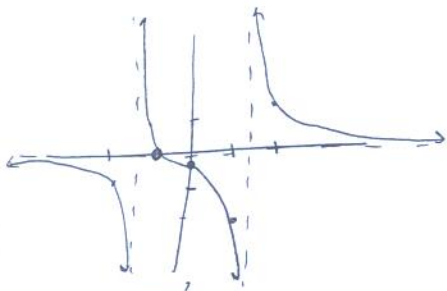
$$HA: y = 0$$

Zeros: -1

$$y_{int}: (0, -1/2)$$

$$D: \mathbb{R} \neq \sqrt{2}, -\sqrt{2}$$

$$R: \mathbb{R}$$



Cross?

$$0 = \frac{x+1}{x^2-2}$$

$$m(1) = \frac{2}{-1}$$

$$m(2) = \frac{3}{2}$$

$$m(-2) = \frac{-1}{2}$$

$$n(x) = \frac{3x^2-5x-2}{x^2+2x-3}$$

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

$$VA: x = -3, x = 1$$

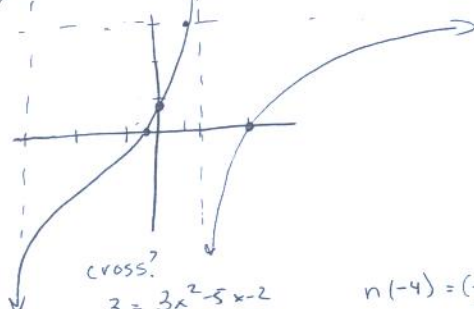
$$HA: y = 3$$

Zeros: -1/3, 2

$$y_{int}: (0, 2/3)$$

$$D: \mathbb{R} \neq -3, 1$$

$$R: \mathbb{R}$$



Cross?

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

$$n(-4) = \frac{(-11)(-6)}{-1(-5)} = \frac{66}{5} = 13.2$$

$$3x^2+6x-9 = 3x^2-5x-2$$

$$11x = 7$$

$$x = 7/11$$

$$x = 7/11 \text{ yes}$$

$$(9) g(x) = \frac{1}{x^2+1}$$

VA: None

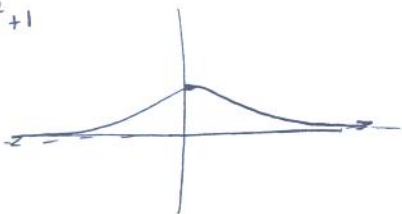
$$HA: y = 0$$

Zeros: None

$$y_{int}: (0, 1)$$

$$D: \mathbb{R}$$

$$R: (0, 1]$$



$$(10) r(x) = \frac{x}{x^2+1}$$

VA: None

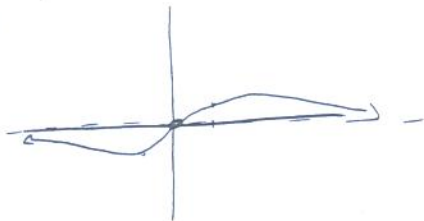
$$HA: y = 0$$

Zeros: 0

$$y_{int}: (0, 0)$$

$$D: \mathbb{R}$$

$$R: [-.5, .5]$$



$$r(1) = \frac{1}{2}$$

$$r(-1) = \frac{-1}{2}$$