

Name: Key

11-2 Practice Rational Functions

State the asymptote (excluded value) for each function.

$$1. y = \frac{-1}{x}$$

$x = 0$

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

$x = -5$

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

$x = 5$

$$4. y = \frac{x-1}{12x+36}$$

$x = -3$

$$5. y = \frac{x+1}{2x+3}$$

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

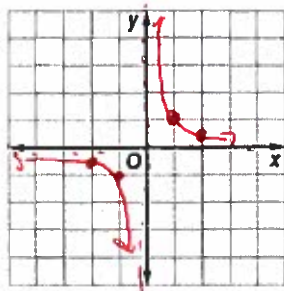
$$6. y = \frac{1}{5x-2}$$

$x = \frac{2}{5}$

Identify the asymptotes (horizontal and vertical) of each function. Then graph the function. State the domain and range:

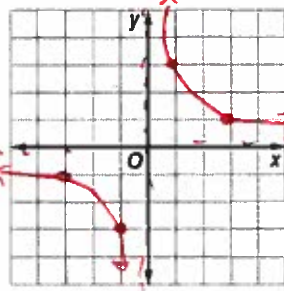
$$7. y = \frac{1}{x}$$

VA: $x = 0$ D: $x \neq 0$
HA: $y = 0$ R: $y \neq 0$



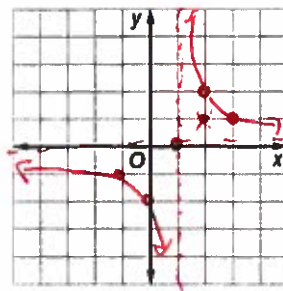
$$8. y = \frac{3}{x}$$

VA: $x = 0$ D: $x \neq 0$
HA: $y = 0$ R: $y \neq 0$



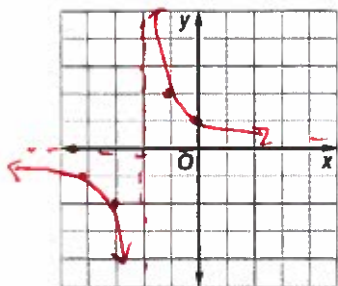
$$9. y = \frac{2}{x-1}$$

VA: $x = 1$ D: $x \neq 1$
HA: $y = 0$ R: $y \neq 0$



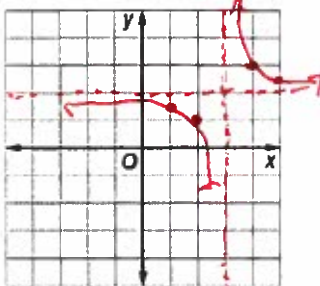
$$10. y = \frac{2}{x+2}$$

VA: $x = -2$ D: $x \neq -2$
HA: $y = 0$ R: $y \neq 0$



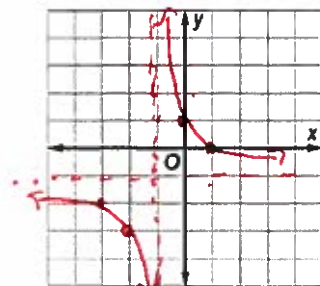
$$11. y = \frac{1}{x-3} + 2$$

VA: $x = 3$ D: $x \neq 3$
HA: $y = 2$ R: $y \neq 2$



$$12. y = \frac{2}{x+1} - 1$$

VA: $x = -1$ D: $x \neq -1$
HA: $y = -1$ R: $y \neq -1$



13. Chicago, IL is located approximately 1000 miles from Houston, TX. The average speed of a plane traveling between the two cities is given by $y = \frac{1000}{x}$, where x is the total flight time. Graph the function.

