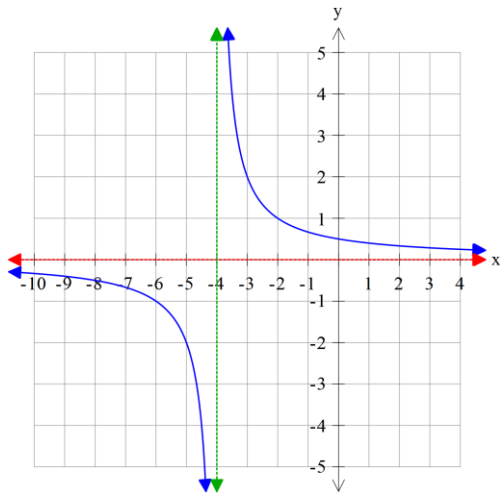


Answers to Classwork Rational Functions

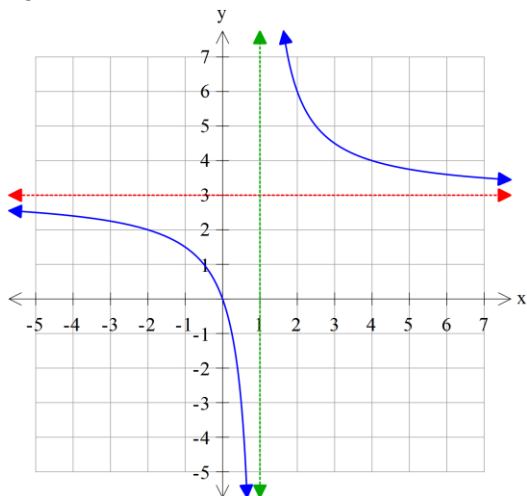
1. $x \mid x \neq \frac{1}{3}$ or $\left(-\infty, \frac{1}{3}\right) \cup \left(\frac{1}{3}, \infty\right)$	2. $x \mid x \neq \pm \frac{1}{2}$ or $\left(-\infty, -\frac{1}{2}\right) \cup \left(-\frac{1}{2}, \frac{1}{2}\right) \cup \left(\frac{1}{2}, \infty\right)$
3. $(-\infty, \infty)$	4. $x \mid x \neq 1, 2$ or $(-\infty, 1) \cup (1, 2) \cup (2, \infty)$
5. Vertical Asymptote (V.A.) $x = 3$ Horizontal Asymptote (H.A.) $y = 5$	6. Vertical Asymptote (V.A.) $x = -2$ Horizontal Asymptote (H.A.) none
7. Vertical Asymptote (V.A.) none Horizontal Asymptote (H.A.) $y = 0$	8. Vertical Asymptote (V.A.) $x = -\frac{2}{3}, 1$ Horizontal Asymptote (H.A.) $y = \frac{1}{3}$

9.



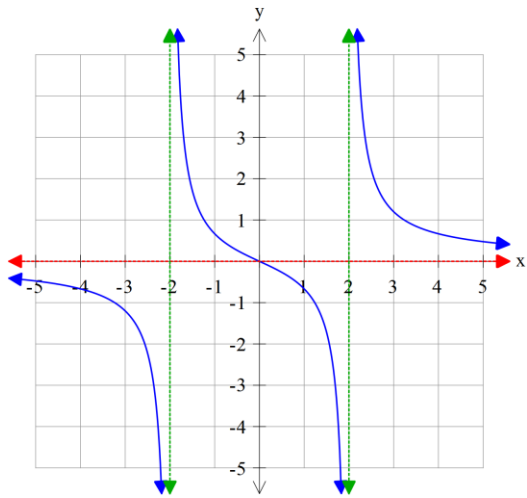
- x-intercepts: NONE
- y-intercept: $\frac{1}{2}$
- vertical asymptote: $x = -4$
- horizontal asymptote: $y = 0$
- point where we cross H.A.: none

10.



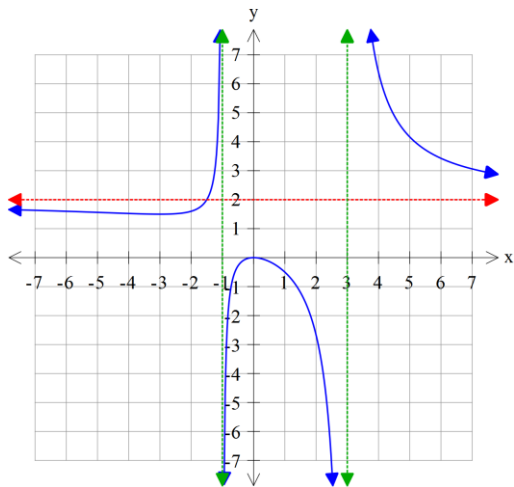
- x-intercepts: 0
- y-intercept: 0
- vertical asymptote: $x = 1$
- horizontal asymptote: $y = 3$
- point where we cross H.A.: none

11.



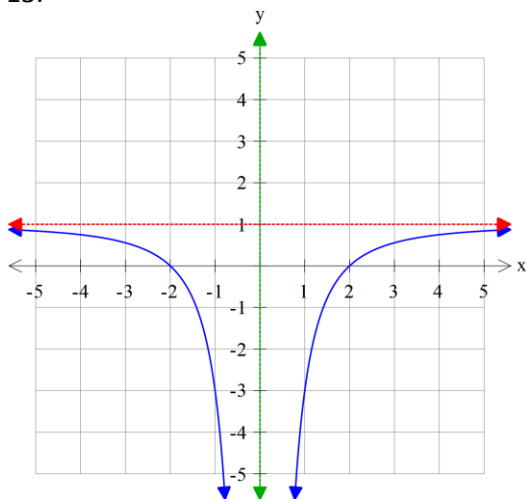
- a. x-intercepts: 0
- b. y-intercept: 0
- c. vertical asymptote: $x = \pm 2$
- d. horizontal asymptote: $y = 0$
- e. point where we cross H.A.: $(0,0)$

12.



- a. x-intercepts: 0
- b. y-intercept: 0
- c. vertical asymptote: $x = -1,3$
- d. horizontal asymptote: $y = 2$
- e. point where we cross H.A.: $\left(-\frac{3}{2}, 2\right)$

13.



- a. x-intercepts: $x = \pm 2$
- b. y-intercept: none
- c. vertical asymptote: $x = 0$
- d. horizontal asymptote: $y = 1$
- e. point where we cross H.A.: none