

Pre-Calculus

KEY

Analyze a rational function and identify its key features.

1. Root(s): $x = 3$; Vert. Asy.: $x = -7$; Horiz. Asy.: $y = 1$
2. Root(s): $x = -9$; Vert. Asy.: $x = 9$; Horiz. Asy.: $y = \frac{1}{2}$
3. Root(s): $x = -\frac{3}{2}$; Vert. Asy.: $x = \frac{5}{3}$; Horiz. Asy.: $y = \frac{2}{3}$
4. Root(s): $x = -\frac{11}{4}$; Vert. Asy.: $x = \frac{11}{3}$; Horiz. Asy.: $y = \frac{4}{3}$
5. Root(s): $x = -9$; Vert. Asy.: $x = \pm 3$; Horiz. Asy.: $y = 0$
6. Root(s): $x = 7$; Vert. Asy.: $x = \pm 6$; Horiz. Asy.: $y = 0$
7. Root(s): $x = \pm 3$; Vert. Asy.: $x = -8, 0$; Horiz. Asy.: $y = 2$
8. Root(s): $x = 0, 3$; Vert. Asy.: $x = \pm 2$; Horiz. Asy.: $y = 4$
9. Root(s): $x = -12$; Vert. Asy.: $x = -3, 5$; Horiz. Asy.: $y = 0$
10. Root(s): $x = -7, 5$; Vert. Asy.: $x = \pm 4$; Horiz. Asy.: $y = \frac{1}{3}$
11. Root(s): $x = -10, -4$; Vert. Asy.: $x = 3, 11$; Horiz. Asy.: $y = 1$
12. Root(s): $x = -5, 9$; Vert. Asy.: $x = -4, 8$; Horiz. Asy.: $y = \frac{1}{2}$