

Math 3 Advanced
8.2 Graph Rationals - KEY

Find all the key points of the given rational function.

1. root(s): $x = \frac{3}{2}$
vert. asymptote(s): $x = 2$
hor. asymptote: $y = 2$
removable discontinuity: $(-4, \frac{11}{6})$

2. root(s): $x = \frac{1}{5}$
vert. asymptote(s): $x = 1$
hor. asymptote: $y = 5$
removable discontinuity: $(-6, \frac{31}{7})$

3. root(s): $x = 5$
vert. asymptote(s): $x = \frac{1}{2}$
hor. asymptote: $y = \frac{1}{2}$
removable discontinuity: $(\frac{2}{3}, -13)$

4. root(s): $x = \frac{1}{2}$
vert. asymptote(s): $x = -\frac{1}{3}$
hor. asymptote: $y = \frac{2}{3}$
removable discontinuity: $(1, \frac{1}{4})$

5. root(s): $x = \frac{1}{2}, 3$
vert. asymptote(s): $x = \frac{2}{3}, 1$
hor. asymptote: $y = \frac{2}{3}$
removable discontinuity: none

6. root(s): $x = -1, \frac{4}{3}$
vert. asymptote(s): $x = -4, -\frac{1}{5}$
hor. asymptote: $y = \frac{3}{5}$
removable discontinuity: none

7. root(s): $x = -3, 2$
vert. asymptote(s): $x = -2, 1, 4$
hor. asymptote: $y = 0$
removable discontinuity: none

8. root(s): $x = -1, \frac{1}{2}$
vert. asymptote(s): $x = -5, -3, 2$
hor. asymptote: $y = 0$
removable discontinuity: none

9. root(s): $x = -2, 4$
vert. asymptote(s): $x = -5, -3, 3$
hor. asymptote: $y = 0$
removable discontinuity: none

10. root(s): $x = -\frac{3}{2}, 4$
vert. asymptote(s): $x = -4, 0, 3$
hor. asymptote: $y = 0$
removable discontinuity: none

11. root(s): $x = -1, 0, 1$
vert. asymptote(s): $x = 2, 3$
hor. asymptote: none
removable discontinuity: none

12. root(s): $x = 0, 1$
vert. asymptote(s): $x = -5, 6$
hor. asymptote: none
removable discontinuity: none