

Math 3 Advanced

8.1 Rational Functions (part 1)

State all horizontal and vertical asymptotes of the function.

1. $f(x) = \frac{2}{x+5}$

2. $f(x) = \frac{x+1}{x-4}$

3. $g(x) = \frac{2-3x}{5x+1}$

4. $p(x) = \frac{2x-1}{x}$

5. $f(x) = \frac{3}{x^2-3x-18}$

6. $g(x) = \frac{2}{(x-5)^2}$

7. $f(x) = \frac{x+3}{(x-4)(x+1)}$

8. $p(x) = \frac{x+6}{x^2-9}$

9. $f(x) = \frac{x^2-2x-8}{x+3}$

10. $g(x) = \frac{x-3}{x^2+x-12}$

11. $f(x) = \frac{x^2-5x-14}{x+2}$

12. $f(x) = \frac{2}{x^2+9}$

Answer List

- | | |
|---|-----------------------|
| 1. $x = -5, y = 0$ | 2. $x = 4, y = 1$ |
| 3. $x = -\frac{1}{5}, y = -\frac{3}{5}$ | 4. $x = 0, y = 2$ |
| 5. $x = -3, x = 6, y = 0$ | 6. $x = 5, y = 0$ |
| 7. $x = 4, x = -1, y = 0$ | 8. $x = \pm 3, y = 0$ |
| 9. $x = -3$ | 10. $x = -4, y = 0$ |
| 11. none | 12. $y = 0$ |

Catalog List

- | | | | |
|--------------|---------------|---------------|---------------|
| 1. TRI ID 1 | 2. TRI ID 5 | 3. TRI ID 9 | 4. TRI ID 13 |
| 5. TRI ID 17 | 6. TRI ID 21 | 7. TRI ID 25 | 8. TRI ID 29 |
| 9. TRI ID 33 | 10. TRI ID 37 | 11. TRI ID 41 | 12. TRI ID 45 |