

Rational Functions

Identify the holes, vertical asymptotes, and horizontal asymptote of each.

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

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

3) $f(x) = \frac{x^2 + x - 6}{x^2 - 6x + 8}$

4) $f(x) = \frac{-4x + 8}{x^2 + x - 6}$

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

6) $f(x) = \frac{3x + 9}{x^2 + 5x + 6}$

7) $f(x) = \frac{x^2 + 7x + 12}{x^2 + 5x + 4}$

8) $f(x) = \frac{x-3}{x-1}$