

Find the VA, HA, SA and any holes, and graph of the following functions:

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

2) $f(x) = \frac{x-2}{x-3}$

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

4) $f(x) = \frac{2}{x^2 - x - 12}$

5) $f(x) = \frac{x^2 + 5x + 8}{x+3}$

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

Graph and ANALYZE the following functions:

7) $f(x) = \begin{cases} 3-x, & x \geq 0 \\ 2x+3, & x < 0 \end{cases}$

8) $f(x) = \begin{cases} x^2 + 5, & x \leq 1 \\ -x^2, & x > 1 \end{cases}$

9) $f(x) = \begin{cases} 3, & x > 2 \\ 0, & x = 2 \\ -3, & x < 2 \end{cases}$

10) $f(x) = \begin{cases} \sqrt{4+x}, & x < 0 \\ \sqrt{4-x}, & x \geq 0 \end{cases}$