Name: _____

Rational Functions

1) Find all vertical and slant asymptotes of the graph of each rational function

    1) $f(x) = \dfrac{x^2}{x-1}$

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

    3) $f(x) = \dfrac{x^2+x-1}{x-1}$

    4) $f(x) = \dfrac{2x^2-5}{x+3}$

    5) $f(x) = \dfrac{x^3}{x^2-4}$

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

2) Give the coordinates of all holes in the graph of each rational function

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

    2) $f(x) = \dfrac{x+5}{x+5}$

    3) $f(x) = \dfrac{2x+6}{x+3}$

    4) $f(x) = \dfrac{x^2-4}{x+2}$

    5) $f(x) = \dfrac{x^2-3x-10}{x+2}$

    6) $f(x) = \dfrac{x^3+x^2-x-1}{x+1}$

3) For each function, find the domain of the function and express it as an inequality. Write the equations of the horizontal and vertical asymptotes of the function.

1)

2)

3)

4)

5)

6)

7)

8)

Grade 11