<u>Worksheet 8 – Rational Functions (§4.5)</u>

Graph each of the following rational functions by computing the following.

    (a) Domain   **(d)** *y*-intercepts

    (b) Holes   **(e)** Vertical Asymptotes

    (c) *x*-intercepts   **(f)** Horizontal or Slant Asymptotes

1. $f(x) = \dfrac{5x}{6-2x}$

2. $f(x) = \dfrac{1}{x^2+x-12}$

3. $f(x) = \dfrac{2x-1}{-2x^2-5x+3}$

4. $f(x) = \dfrac{x}{x^2+x-12}$

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

6. $f(x) = \dfrac{x^2-x-12}{x^2+x-6}$

7. $f(x) = \dfrac{3x^2-5x-2}{x^2-9}$

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

9. $f(x) = \dfrac{x^2-x}{3-x}$

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

11. $f(x) = \dfrac{-x^3+4x}{x^2-9}$

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