Name:_____

2.4 Rational Functions Day 1

15–24 ■ Find all horizontal and vertical asymptotes (if any).

15. $r(x) = \dfrac{3}{x+2}$

17. $t(x) = \dfrac{x^2}{x^2 - x - 6}$

19. $s(x) = \dfrac{6}{x^2 + 2}$

21. $r(x) = \dfrac{6x - 2}{x^2 + 5x - 6}$

23. $t(x) = \dfrac{x^2 + 2}{x - 1}$

33–56 ■ Find the intercepts and asymptotes, and then sketch a graph of the rational function. Use a graphing device to confirm your answer.

33. $r(x) = \dfrac{4x - 4}{x + 2}$

35. $s(x) = \dfrac{4 - 3x}{x + 7}$

37. $r(x) = \dfrac{18}{(x - 3)^2}$

41. $s(x) = \dfrac{6}{x^2 - 5x - 6}$

45. $r(x) = \dfrac{(x - 1)(x + 2)}{(x + 1)(x - 3)}$

49. $r(x) = \dfrac{2x^2 + 10x - 12}{x^2 + x - 6}$

51. $r(x) = \dfrac{x^2 - x - 6}{x^2 + 3x}$

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