Name_____

Date_____ Period____

Graphing Simple Rational Functions

Identify the vertical asymptotes, horizontal asymptote, domain, and range of each.
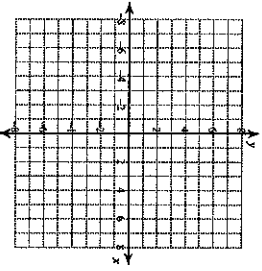
1) $f(x) = -\dfrac{4}{x}$

2) $f(x) = \dfrac{4}{x-1} + 1$
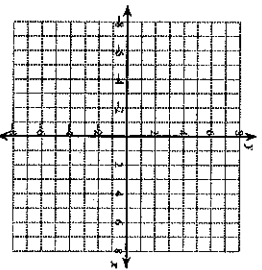
3) $f(x) = -\dfrac{3}{x-1} - 1$

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

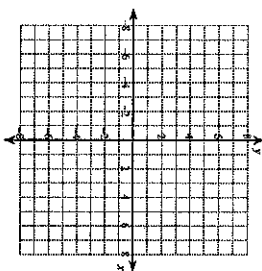**Identify the vertical asymptotes, horizontal asymptote, domain, and range of each. Then sketch the graph.**

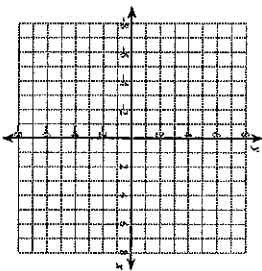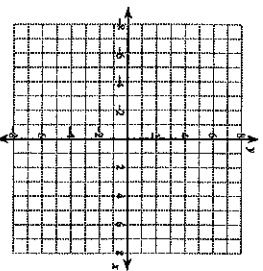5) $f(x) = \dfrac{3}{x+1} - 2$

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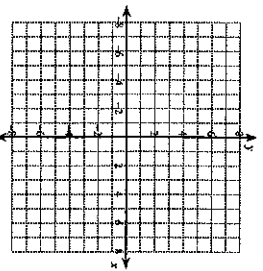

7) $f(x) = \dfrac{3}{x} + 1$

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

9) $f(x) = -\dfrac{4}{x+1} + 1$

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

Critical thinking question:

11) Write a function of the form $f(x) = \dfrac{a}{x-h} + k$ with a vertical asymptote at $x = 25$