

## Rational Functions and their Graphs

### Evaluate It, Graph It Handout

1. If  $f(x) = \frac{1}{x^3-2}$ , find  $f(-1)$ ,  $f(0)$ , and  $f(1)$ .
2. If  $f(x) = \frac{25}{x^2-25}$ , find  $f(-5)$ ,  $f(0)$ , and  $f(5)$ .
3. If  $f(x) = \frac{10}{x}$ , find  $f(-5)$ ,  $f(-1)$ , and  $f(0)$ .
4. If  $f(x) = \frac{x^3}{x^2-1}$ , find  $f(0)$ ,  $f(1)$ , and  $f(2)$ .
5. If  $f(x) = \frac{x}{x-7}$ , find  $f(0)$ ,  $f(3)$ , and  $f(7)$ .
6. If  $f(x) = -\frac{2}{x}$ , find  $f(0)$ ,  $f(2)$ , and  $f(4)$ .
7. If  $f(x) = \frac{2x+1}{x}$ , find  $f(-2)$ ,  $f(0)$ , and  $f(2)$ .
8. Graph  $f(x) = \frac{2}{x}$ .
9. Graph  $f(x) = \frac{1}{x-1}$ .
10. Graph  $f(x) = \frac{1}{x^2+4x}$ .