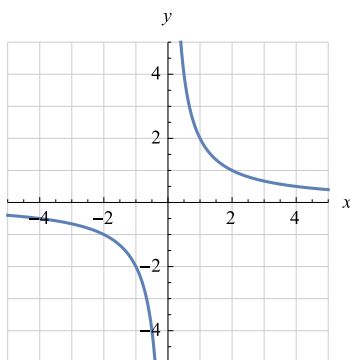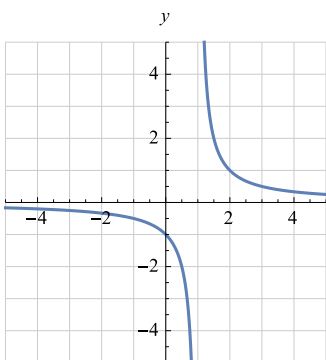# Rational Functions and their Graphs-Answers
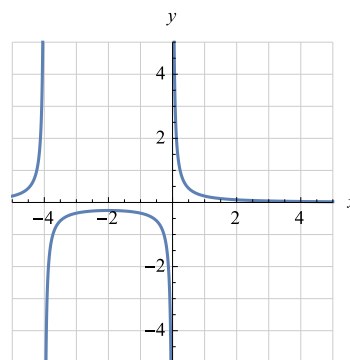# Evaluate It, Graph It Handout

Problem 8

Problem 9

Problem 10

1. 1. If $f(x) = \frac{1}{x^3-2}$, find $f(-1), f(0)$, and $f(1)$.
   $f(-1) = -\frac{1}{3}, f(0) = -\frac{1}{2}, f(1) = -1$

2. If $f(x) = \frac{25}{x^2-25}$, find $f(-5), f(0)$, and $f(5)$.
   $f(-5) =$ undefined, $f(0) = -1$, $f(5)$ =undefined

3. If $f(x) = \frac{10}{x}$, find $f(-5), f(-1)$, and $f(0)$.
   $f(-5) = -2, f(-1) = -10, f(0) =$ undefined

4. If $f(x) = \frac{x^3}{x^2-1}$, find $f(0), f(1)$, and $f(2)$.
   $f(0) = 0, f(1) =$ undefined, $f(2) = \frac{8}{3}$

5. If $f(x) = \frac{x}{x-7}$, find $f(0), f(3)$, and $f(7)$.

$f(0) = 0, f(3) = -\frac{3}{4}, f(7) =$ undefined

6. If $f(x) = -\frac{2}{x}$, find $f(0), f(2)$, and $f(4)$.

$f(0) =$ undefined, $f(2) = -1, f(4) = -\frac{1}{2}$

7. If $f(x) = \frac{2x+1}{x}$, find $f(-2), f(0)$, and $f(2)$.
   $f(-2) = \frac{3}{2}, f(0) =$ undefined, $f(2) = \frac{5}{2}$

8. Graph $f(x) = \frac{2}{x}$.

9. Graph $f(x) = \frac{1}{x-1}$.

10. Graph $f(x) = \frac{1}{x^2+4x}$.