

NAME: _____

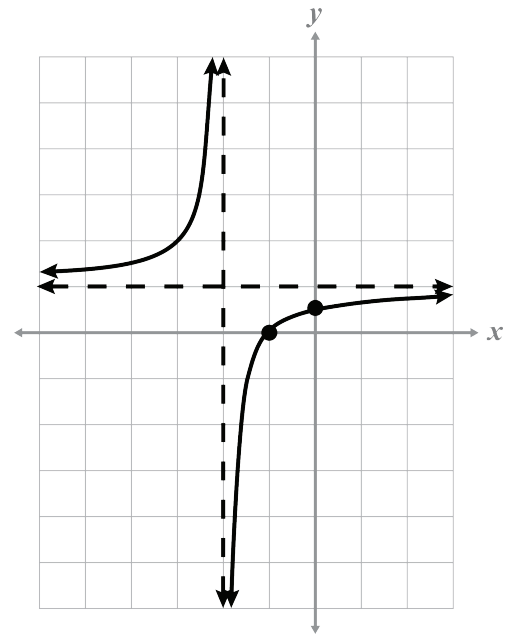
Test 5 (Lessons 9–10): Rational Equations and Functions

Solve. Check for extraneous solutions.

1) $\frac{1}{x} + \frac{3x}{x+3} = \frac{8x^2 - x + 6}{3x^2 + 9x}$

2) $\frac{x-4}{3x} = \frac{x-4}{x+3}$

- 3) Name the asymptotes and intercepts for: $h(x) = \frac{-1}{x+2} + 1$.



- 4) Name the domain and range in set notation.

- 5) Sandy can mow the lawn in 45 minutes. When Mike helps, the job can be completed in 18 minutes. How long would it take for Mike to mow the lawn alone?

- 6) Name the domain and range for the function: $y = \frac{1}{2(x-1)} + 8$.

Solve. Check for extraneous solutions.

7) $\frac{4}{x+2} + \frac{4}{x-4} = \frac{8}{x-4}$

8) $\frac{2x+4}{2x-1} - 2 = \frac{17-x}{2x^2+5x-3}$

For problems 9–10, use the function: $f(x) = \frac{3}{x-2} - 1$

9) Name a , h , and k . Then find the asymptotes and intercepts algebraically for the function.

10) Describe the transformation from the parent and sketch a graph. Only label the asymptotes and intercepts.

