

Directions:

- A. Find the vertical asymptote, horizontal asymptote, domain, range and zeros of each function.
- B. Graph the rational function.

1. $f(x) = \frac{x+4}{-2x-6}$

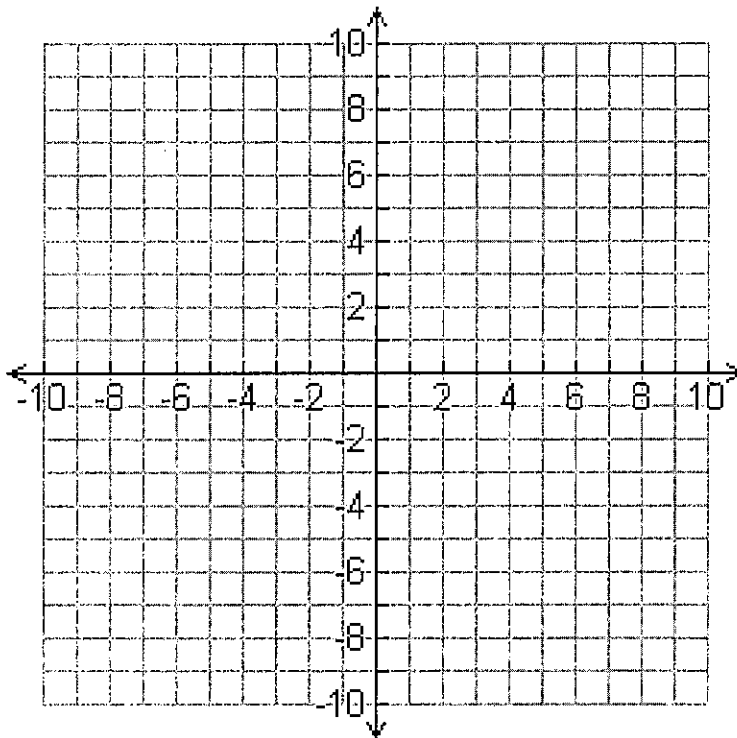
VA: _____

HA: _____

D: _____

R: skip

Zeros: _____



2. $f(x) = \frac{3}{x-2}$

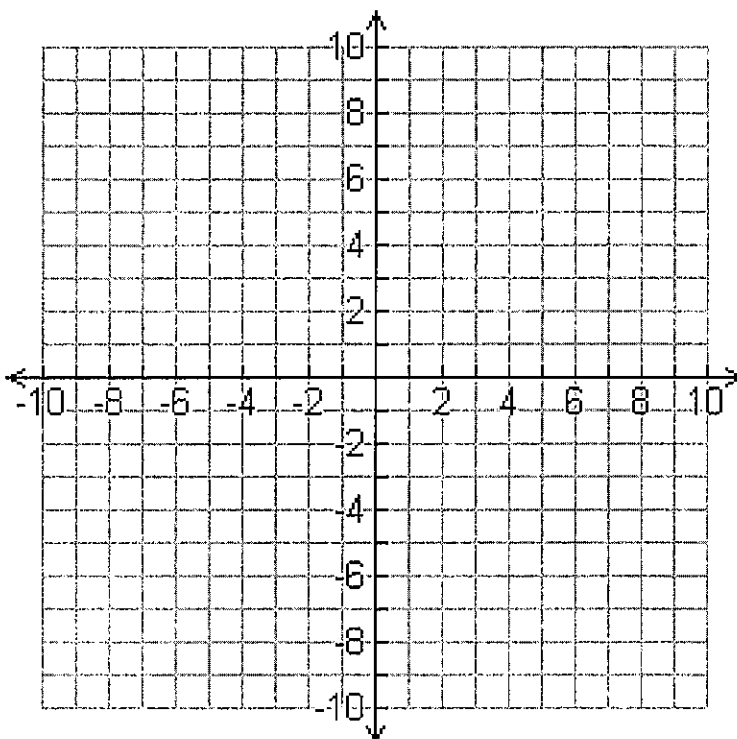
VA: _____

HA: _____

D: _____

R: skip

Zeros: _____



$$3. f(x) = \frac{x^2 - 3x - 4}{x}$$

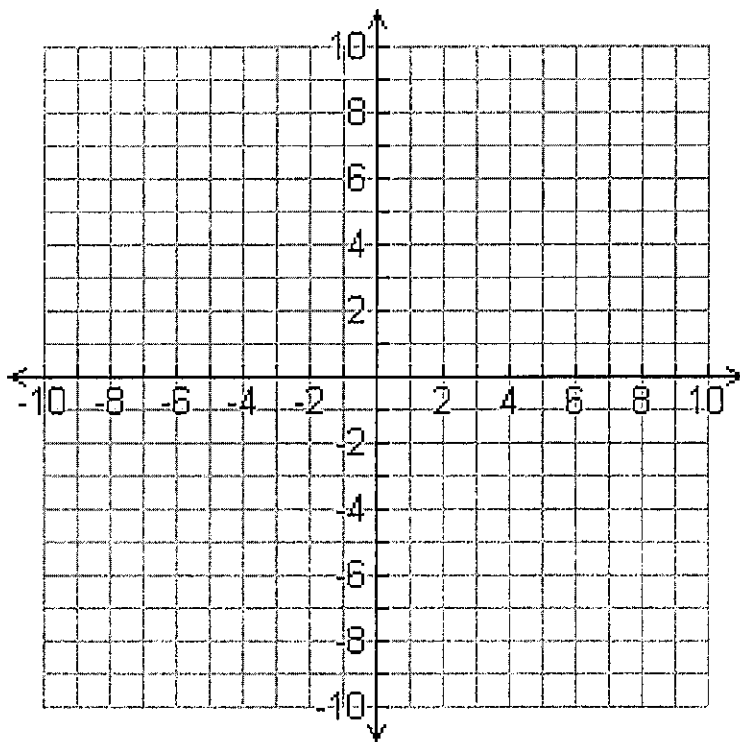
VA: _____

HA: _____

D: _____

R: skip

Zeros: _____



Directions: Solve each rational inequality. Be sure to create a number line and test values. Your final answer should be in interval notation.

$$4. \frac{3x-2}{x+4} < 2$$

$$5. \frac{x^2-2x-8}{x+4} \geq 0$$

$$6. \frac{3x-5}{x-1} > 4$$

$$7. \frac{5}{x-3} \geq \frac{4}{x-2}$$

Directions:

A. Identify the LCD and what the variable \neq .

B. Solve each equation. Be sure to check your answer.

$$8. \quad \frac{4}{x+2} + \frac{x+6}{x-4} = \frac{x+5}{x-4}$$

$$9. \quad \frac{1}{v^2-1} + \frac{v+2}{v-1} = \frac{v^2+2v-8}{v^2-1}$$

$$10. \quad \frac{p+6}{p} = 6 - \frac{1}{p}$$

$$11. \quad \frac{1}{2p^2} + \frac{p-2}{p^2} = \frac{1}{3p^2}$$

$$12. \quad \frac{n-2}{2n^2+2n} = \frac{3}{4n+4} + \frac{1}{4n^2+4n}$$

$$13. \quad \frac{1}{m^2+6m} - \frac{1}{m} = \frac{5}{m^2+6m}$$

$$14. \quad \frac{1}{4a^2-9a+5} = \frac{1}{a-1} - \frac{a^2+3a-18}{4a^2-9a+5}$$

$$15. \quad \frac{x+3}{x^2+3x-4} = \frac{x+2}{x^2-16}$$