Algebra 2
Review Ch. 8
Test Ch. 8 Thurs.
Quiz 8.5-8.6 Wed.

Find LCM

$250x^2 - 49y^2, 16x^2 + 7yx$

$(16x+7y)(16x-7y) \quad x(16x+7y)$

$x(16x+7y)(16x-7y)$

Example 1

Simplify $\frac{4a}{3b} \cdot \frac{9b^4}{2a^2}$.

Example 2

Simplify $\frac{r^2 + 5r}{2r} \div \frac{r^2 - 25}{6r - 12}$.

Example 3

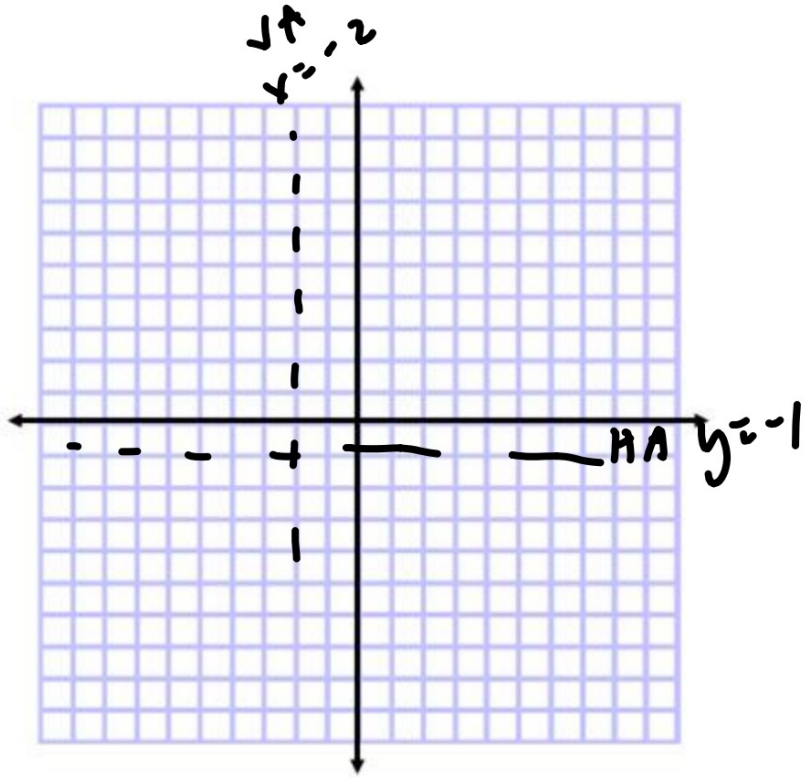
Simplify $\frac{3a}{a^2 - 4} - \frac{2}{a - 2}$.

22. $\dfrac{\left(\dfrac{3}{2x+3}-\dfrac{x}{x+1}\right)}{\left(\dfrac{2x}{x+1}+\dfrac{5}{2x+3}\right)}$

Example 4

Graph $f(x) = \frac{3}{x+2} - 1$. State the domain and range.

$x = -2$

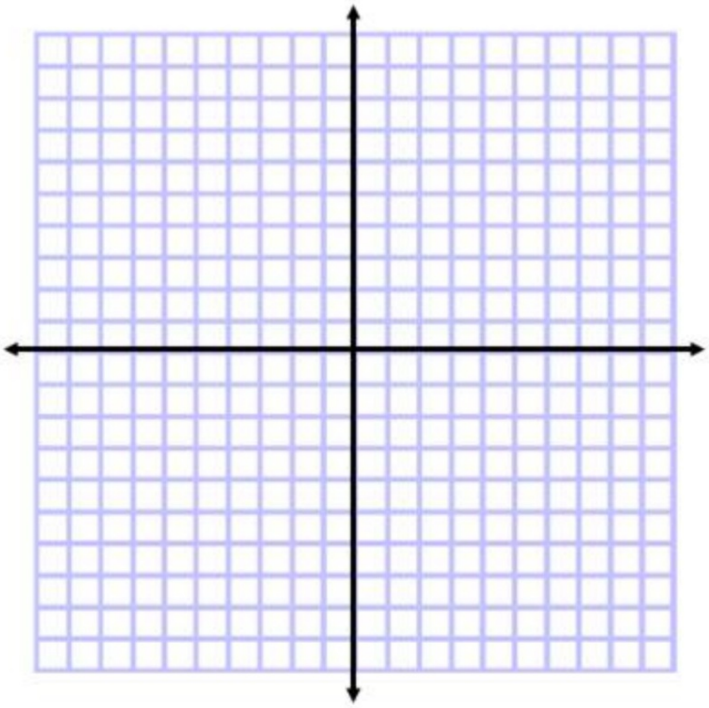


29. $f(x) = \frac{-4}{x+4} - 8$

VA $x = -4$

HA $y = -8$

1. Analyze (parent graph)
2. Sketch
3. Use technology (table)



Example 5

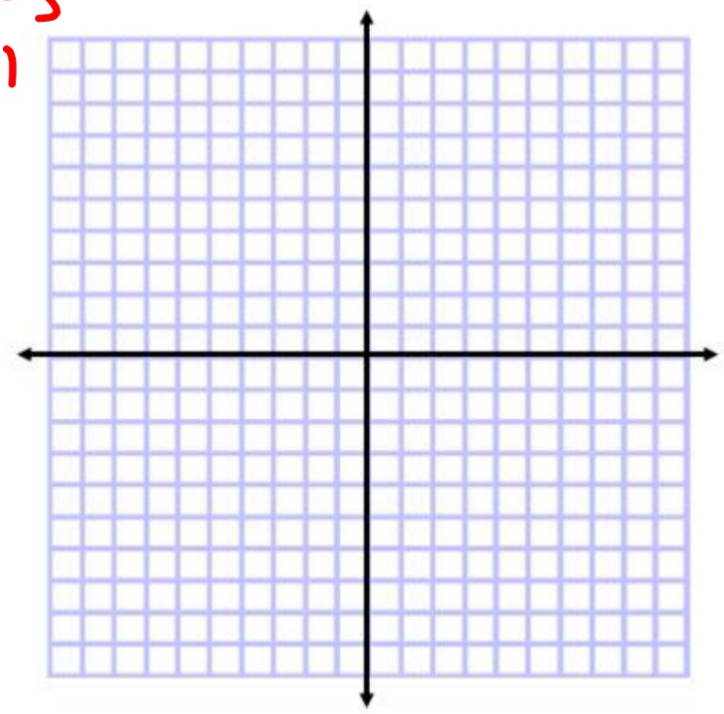
Determine the equation of any vertical asymptotes and the values of x for any ~~holes~~ in the graph of $f(x) = \dfrac{x^2 - 1}{x^2 + 2x - 3}$.

P.D. $x = 1$

VA $x = -3$

HA $y = 1$

$$\frac{(x+1)(x-1)}{(x+3)(x-1)}$$



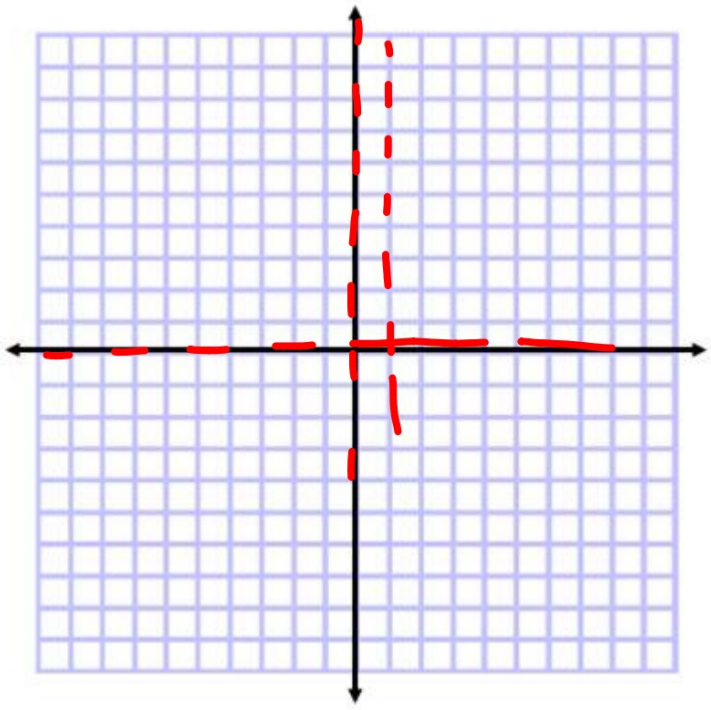
Example 6

Graph $f(x) = \frac{1}{6x(x-1)}$.

VA $x = 0$
$x = 1$

$\frac{1}{6x^2 - 6x}$

HA $y = 0$



$y = \frac{k}{x}$

Example 7

If y varies inversely as x and $x = 24$ when $y = -8$, find x when $y = 15$.

$y = \frac{-192}{x}$

$\frac{-8}{1} = \frac{k}{24}$

$k = -192$

$\frac{15}{1} = \frac{-192}{x}$

$15x = -192$

$x = -12.8$

Example 8

Solve $\frac{3}{x+2} + \frac{1}{x} = 0.$

p. 585

PT odds → W

even → Th

50. $\frac{x}{2} + \frac{1}{x-1} < \frac{x}{4}$

52. **YARD WORK** Lana can plant a garden in 3 hours. Milo can plant the same garden in 4 hours. How long will it take them if they work together?

$R \cdot T = J$

L $\frac{1}{3}$ 3 = 1

M $\frac{1}{4}$ 4 = 1

$\left(\frac{1}{3} + \frac{1}{4}\right)T = 1$

$\frac{12}{7}\ \frac{7}{12}T = 1 \cdot \frac{12}{7}$

$T = 1.7$ hrs

(13) $y = k \times z$

$18 = k \cdot 6.15$

$\frac{18}{90} = \frac{k\,90}{90}$

$k = 0.2$

$y = 0.2 \times z$

$y = 0.2 \; 12 \cdot y$

$y = 9.6$