

For Questions 2-5, simplify each expression.

2. $\frac{4y^2 - 1}{3y - 1} \cdot \frac{1 - 3y}{2y + 1}$

$\frac{(2y-1)(2y+1)}{3y-1}$

$-\frac{(3y-1)}{2y+1} = -(2y-1)$

3. $\frac{x^2 - 6x + 8}{3x - 12} \div \frac{x^2 - 4}{x^2 + 5x + 6}$

$\frac{(x-2)x}{(x-2)(x+2)(x+3)}$
Part II

$-\frac{1(x+2)}{(x+3)(x-2)(x+2)}$
5. _____
6. _____

6. Simplify $\frac{x}{x^2 + 5x + 6} \cdot \frac{1}{x^2 + x - 6}$
(6)

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

$$\textcircled{7} \quad \begin{aligned} 12a^2 &= 2 \cdot 2 \cdot 3 \cdot a \cdot a \cdot b \cdot b \cdot b \cdot 5 \\ 15b^3 &= 3 \cdot 5 \cdot b \cdot b \cdot b \\ 20ab^2 &= 2 \cdot 2 \cdot 5 \cdot a \cdot b \cdot b \end{aligned}$$

$$\text{LCM: } 3 \cdot 2 \cdot 2 \cdot 5 \cdot a \cdot a \cdot b \cdot b \cdot b =$$

$$5(x^2-4) \quad 3(x+2)$$

$$60a^2b^3$$

7. $12a^2, 15b^3, 20ab^2$

8. $5x^2 - 20, 3x + 6$

$$5(x+2)(x-2) \quad 3(x+2)$$

$$\begin{aligned} \text{LCM: } & 5 \cdot 3 (x+2)(x-2) \\ & = 15(x+2)(x-2) \end{aligned}$$

vertical asymptotes graph approach?

$x = -6$ $x = 2$

(NOT equals)

$y = 1$

As $x \rightarrow \infty$, $f(x) \rightarrow \frac{x^2}{x^2} = 1$

9. Determine the equations of any asymptotes in the graph of $f(x) = \frac{x^2 - 4x}{x^2 + 4x - 12}$

$x = -5$

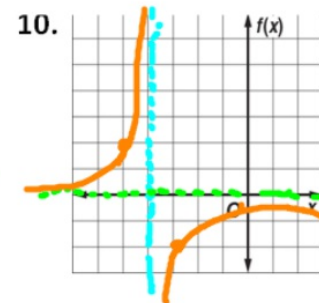
$(x+6)(x-2)$

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

$\frac{-2}{-1} = 2$

$\frac{-2}{49} = -2$
 $x = -3$

$\frac{2x}{x}$



Glencoe Algebra 2