27) $75 + 12x^2 - 60x$

$3(4x^2 - 20x + 25)$

$100 = -10 \cdot -10$

$-20 = -10 + -10$

$4x^2 - 10x - 10x + 25$

$2x(2x-5) - 5(2x-5)$

$3(2x-5)(2x-5)$

Sep 4-3:51 PM

26) $54x^6y - 2y$

$2y(27x^6 - 1)$

$(3x^2)^3 - (1)^3$

$2y(3x^2-1)((3x^2)^2 + (3x^2)(1) + (1)^2)$

$2y(3x^2-1)(9x^4 + 3x^2 + 1)$

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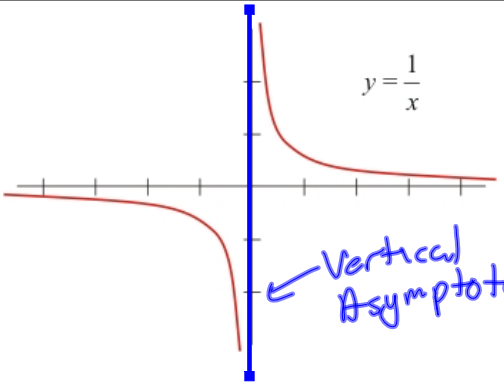

Sep 4-4:11 PM

$$f(x) = \frac{x^2 + 5x}{2x + 5}$$

$2x + 5 \neq 0$

$2x \neq -5$

$x \neq -\frac{5}{2}$

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pg 511 #18

$$\frac{x^2}{4x - 12}$$

$4x - 12 \neq 0$

$4x \neq 12$

$x \neq 3$

Domain Restriction

Vertical Asymptote

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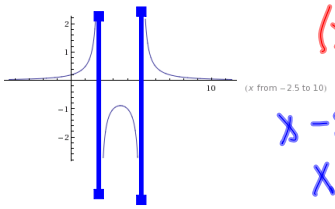
$$\frac{x^2 - 9}{x^2 - 7x + 10}$$

$x^2 - 7x + 10 \neq 0$

$(x - 5)(x - 2)$



$x - 5 \neq 0$ $x - 2 \neq 0$

$x \neq 5$ $x \neq 2$

$10 = -5 \cdot -2$

$-7 = -5 + -2$

Sep 4-4:25 PM

#19 $\frac{x^2-16}{x^2-3x-28}$

$x^2-3x-28 \neq 0$

$(x-7)(x+4)$

$x-7 \neq 0 \quad x+4 \neq 0$

$x \neq 7 \quad x \neq -4$

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$\frac{28}{60} = \frac{4(7)}{4(15)} = \frac{7}{15}$

#26 $\frac{28y^5z}{14y^9z^3} = \frac{2}{y^4z^2}$

Sep 4-4:35 PM

#34 pg512 $\frac{6-5a}{10a-12} = \frac{-5a+6}{10a-12}$

$\frac{-1(5a-6)}{2(5a-6)} = -\frac{1}{2}$

Sep 4-4:39 PM

#36 $\frac{2x^2-6x+4}{4x^2+12x-16} = \frac{x-2}{2(x+4)}$

$2(x^2-3x+2)$ $-2,-1$

$4x^2+12x-16$

$4(x^2+3x-4)$ $4,-1$

$\frac{2(x-2)(x-1)}{4(x+4)(x-1)}$

Sep 4-4:46 PM

#56 $\frac{x^3-27}{5x^2+15x+45}$ $\leftarrow x^3-3^3$

$\frac{(x-3)(x^2+3x+9)}{5(x^2+3x+9)}$

$\frac{x-3}{5}$

Sep 4-5:04 PM

#55 $\frac{3x^3+24}{x^2-2x+4}$

$3(x^3+8)$ $\leftarrow x^3+2^3$

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

Sep 4-5:13 PM