Bellwork Hon Alg 2 Thursday, February 16, 2017

Simplify each. State restrictions on the variables.

1. $\frac{9x^2y^8}{12x^5y^3}$

2. $\frac{x^2-25}{x^2-x-20}$

3. $\frac{2x^4-18x^2}{8x^3+20x^2-48x}$

4. $\frac{16-x^2}{x^2-2x-8}$

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Simplify each. State restrictions on the variables.

1. $\frac{9x^2y^8}{12x^5y^3} = \frac{3y^5}{4x^3}$

$x \neq 0$

$y \neq 0$

2. $\frac{x^2-25}{x^2-x-20} = \frac{(x+5)(x-5)}{(x-5)(x+4)} = \frac{x+5}{x+4}$

$x \neq -4, 5$

3. $\frac{2x^4-18x^2}{8x^3+20x^2-48x}$

$= \frac{2x^2(x^2-9)}{4x(2x^2+5x-12)}$ → -24, 8, -3, 5

	x	$+4$
$2x$	$2x^2$	$8x$
-3	$-3x$	-12

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

$= \frac{x(x+3)(x-3)}{2(2x-3)(x+4)}$ $x \neq 3/2, -4, 0$

4. $\frac{16-x^2}{x^2-2x-8} = \frac{-1(x^2-16)}{x^2-2x-8} = \frac{-1(x+4)(x-4)}{(x-4)(x+2)}$

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

$x \neq -2, 4$