Algebra 2 Bellwork Monday, January 25, 2016

1. Simplify each.

a) $\dfrac{3}{x^2+12x+36} - \dfrac{4x}{2x^3+18x^2+36x}$

b) $\dfrac{\dfrac{5}{x+2}}{\dfrac{2x}{x^2-x-6} - \dfrac{4}{x-3}}$

2. Solve. $|5x-8|+6 \geq 12$

3. Solve each system of equations. Give your answer as an ordered pair.

a)

$y = -4x+3$

$6x-5y = -93$

b)

$12C+22D = 30$

$18C+33D = 45$

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ANSWERS

1. Simplify each.

a) $\dfrac{3}{x^2+12x+36} - \dfrac{4x}{2x^3+18x^2+36x}$ $2x(x^2+9x+18)$

$\dfrac{2x(x+3)}{2x(x+3)}$ $\dfrac{3}{(x+6)(x+6)} - \dfrac{4x}{2x(x+3)(x+6)} \cdot \dfrac{x+6}{x+6}$

$\dfrac{6x^2+18x-4x^2-24x}{2x(x+3)(x+6)^2} = \dfrac{2x^2-6x}{2x(x+3)(x+6)^2}$

b) $\dfrac{\dfrac{5}{x+2}}{\dfrac{2x}{x^2-x-6} - \dfrac{4}{x-3}}$ $\cdot \dfrac{(x-3)(x+2)}{(x-3)(x+2)}$

$(x-3)(x+2)$

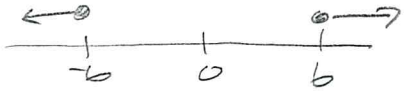
$\dfrac{5(x-3)}{2x-4(x+2)} = \dfrac{5x-15}{-2x-8}$

$2x-4x-8$

2. Solve. $|5x-8|+6 \geq 12$

$-6 \quad -6$

$|5x-8| \geq 6$



$5x-8 \leq -6$ or $5x-8 \geq 6$

$+8 \quad +8 \quad +8 \quad +8$

$5x \leq 2$ or $5x \geq 14$

$x \leq 2/5$ or $x \geq 14/5$

3. Solve each system of equations. Give your answer as an ordered pair.

a)

$y = -4x+3 \rightarrow 4x+y = 3$

$6x-5y = -93$

SUBSTITUTION OR MATRICES

$\begin{bmatrix} 4 & 1 \\ 6 & -5 \end{bmatrix} \begin{bmatrix} 3 \\ -93 \end{bmatrix}$

$(-3, 15)$

b)

$3(12C+22D = 30)$

$2(18C+33D = 45)$

$36C+66D = 90$

$36C+66D = 90$

$0 = 0$

can't use matrices so this is either NO SOL or MANY SOL

MANY SOLUTIONS