WARM UP Review

Simplify and state the restrictions.

1) $\dfrac{x^2-9}{2x^2+x-15} = \dfrac{(x-3)(x+3)}{(2x-5)(x+3)}$

Multiply and state the restrictions.

2) $\dfrac{x^2+5x+6}{x^2-49} \cdot \dfrac{2x-14}{x^2+9x+14}$

$\dfrac{(x+3)(x+2)}{(x+7)(x-7)} \cdot \dfrac{2(x-7)}{(x+7)(x+2)}$

Divide.

4) $\dfrac{8x^6}{21y^4} \div \dfrac{12x^2}{35y^5}$

Add.

3) $\dfrac{6}{x-4} + \dfrac{3x}{1}$ $(x-4)$ $(x-4)$

$\dfrac{2(x+3)}{(x+7)^2}$

$\dfrac{6}{x-4} + \dfrac{3x^2-12x}{x-4}$

$\dfrac{3x^2-12x+6}{x-4} = \dfrac{3(x^2-4x+2)}{x-4}$

Subtract.

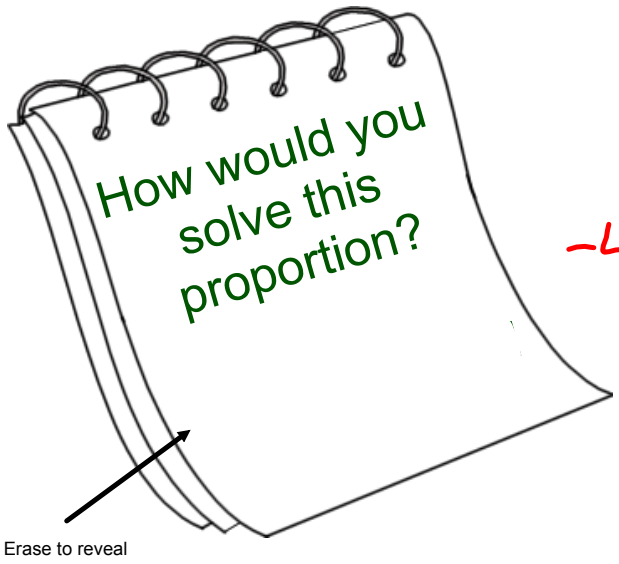
5) $\dfrac{2x}{x^2+x-12} - \dfrac{x}{x+4}$

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

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

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

9.6 Solving Rational Equations



$$\frac{-4}{5x+10} = \frac{3}{x+2}$$

$-4x-8=15x+30$

$-19x=38$

$x=-2$

Solving Rational Equations

$\frac{5}{2x-2} = \frac{15}{x^2-1}$ ← Cross multiply.

$5x^2 - 5 = 30x - 30$

$5x^2 - 30x + 25 = 0$

$5(x^2 - 6x + 5) = 0$

$5(x-5)(x-1) = 0$

$x = 5, 1$

Solving Rational Equations

$\frac{3}{2x} - \frac{5}{3x} = 2$

CanNOT cross multiply? But why?

$\frac{3 \cdot 3}{(2x)3} - \frac{5 \cdot 2}{(3x)2} = \frac{(2x)6}{(1x)6}$

$\frac{9}{6x} - \frac{10}{6x} = \frac{12x}{6x}$

x=-1/12

$9 - 10 = 12x$

$-1 = 12x$

$x = -\frac{1}{12}$

Solving Rational Equations

$$\frac{3}{x+5}+\frac{2}{5-x}=\frac{-4}{x^2-25}$$

$-x+5$

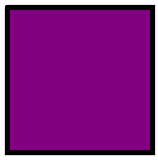
$$\frac{-3(x-5)}{(x-5)(x+5)}+\frac{2(x+5)}{(x-5)(x+5)}=\frac{+4}{(x-5)(x+5)}$$

$$-3x+15+2x+10=4$$

$$-x+25=4$$

$$x=21$$

x=21



HOMEWORK

p. 524 #1-21 odd,
39-51 odd