ALGEBRA III

1/26/18

Simplifying Rational Expressions

Warm Up:

$\frac{12}{36} = \frac{1}{3}$

$\frac{3}{7} \cdot \frac{21}{12} = \frac{63}{84} = \frac{3}{4}$

$\frac{3}{4} \div \frac{1}{5} = \frac{3}{4} \cdot \frac{5}{1} = \frac{15}{4}$

$2 \div \frac{4}{5} = \frac{2}{1} \cdot \frac{5}{4} = \frac{5}{2}$

Simplify the expression:

$$\frac{x^{3}6y^{4}}{2y^{2}} \cdot \frac{}{xy^{1}} = \frac{6x^{3}y^{4}}{2xy^{3}}$$

$3x^2y$

$$\frac{13xy^2}{x^2+3x-18} \cdot \frac{x^2-9}{26x^4y^2}$$

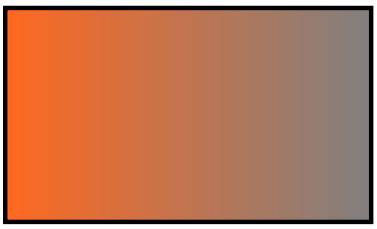
$$\frac{13xy^2}{(x+6)(x-3)} \cdot \frac{(x-3)(x+3)}{226x^4y^2}$$

$$\frac{x+3}{(x+6)2x^3}$$

$$\frac{x+3}{2x^3(x+6)}$$

$$\frac{12x+48}{6x-15}\cdot\frac{4x^2-25}{x^2+9x+20}$$

$$\frac{4(12)(x+4)}{(3)(2x-5)}\cdot\frac{(2x-5)(2x+5)}{(x+5)(x+4)}$$

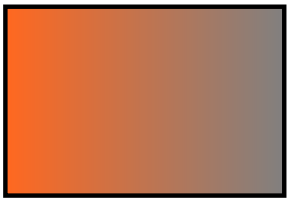


$$\frac{4(2x+5)}{x+5}$$

$$\frac{2x^2+5x-7}{x+4}\div\frac{x^2-2x+1}{x^2+4x}$$

$$\frac{(2x+7)(x-1)}{(x+4)}\cdot\frac{(x)(x+4)}{(x-1)(x-1)}$$

$$\frac{(2x+7)x}{x-1}$$



$$\frac{x(2x+7)}{x-1}$$

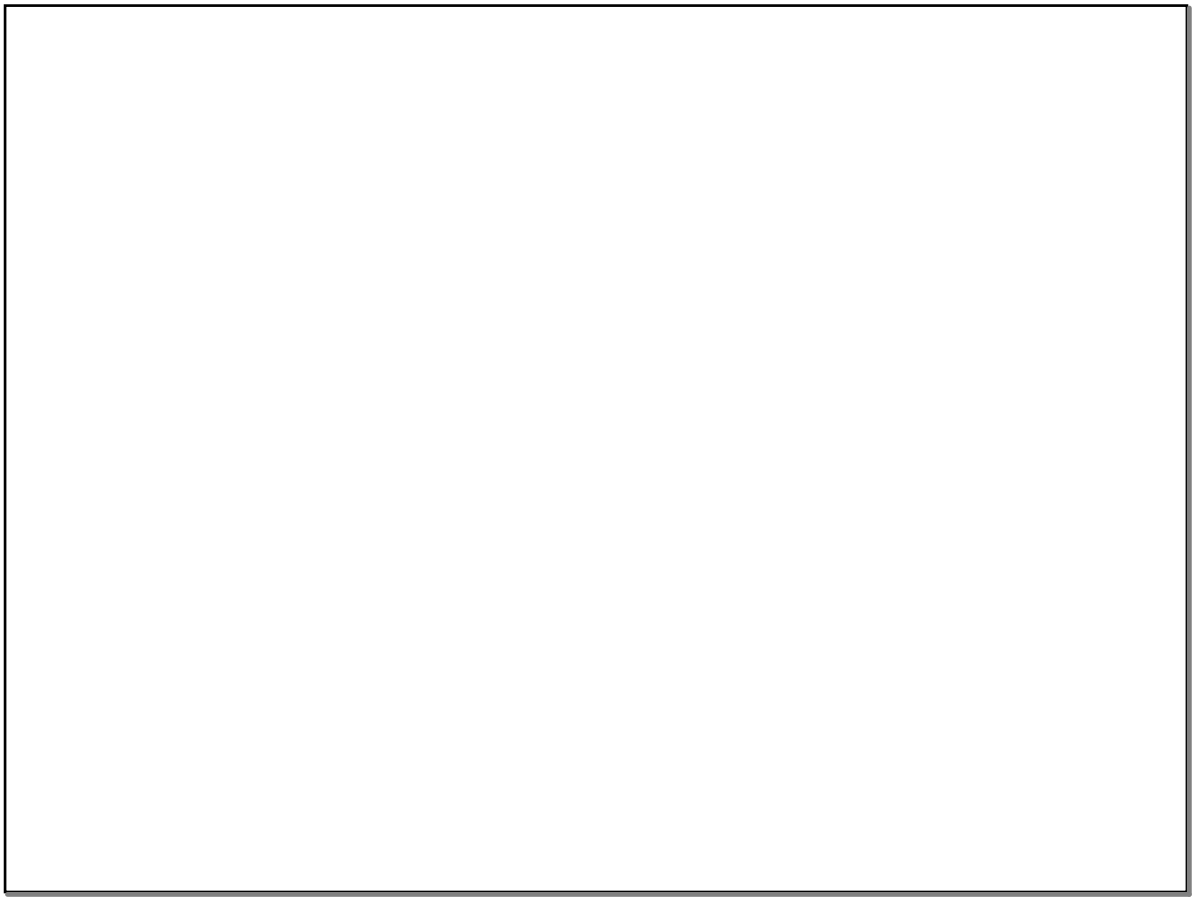
$$\frac{27a^4b^7}{3a^2-6a+3} \div \frac{9ab^3}{(a-1)^3}$$

$$\frac{27a^4b^7}{3(a-1)(a-1)} \cdot \frac{(a-1)^3}{9ab^3}$$

$$3(a^2-2a+1)$$

$$a^3b^4(a-1)$$

$$a^3b^4(a-1)$$

Homework

p328 #28, 36, 46, 61-67 odd, 79, 87-92