Simplify without a calculator.
$$\frac{36}{27} \cdot \frac{15}{16}$$

you would
$$\frac{36}{27} \cdot \frac{15}{16} \cdot \frac{3}{4}$$

reduce $\frac{9}{9} \cdot 5$
 $1 \cdot \frac{5}{4} = \frac{5}{4}$

Simplify. State restrictions on the variables.

$$\frac{x^2 - 49}{x^2 - 9x + 14} \cdot \frac{x^2 - 2x}{4x^3 + 28x^2}$$

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

$$= \frac{1}{x^2 - 49} \cdot \frac{x^2 - 2x}{4x^3 + 28x^2}$$

$$= \frac{1}{x^2 - 9x + 14} \cdot \frac{x^2 - 2x}{4x^3 + 28x^2}$$

Sec 9-4 Simplifying the Product or **Quotient of Rational Expressions**

- Factor all numerators and denominators.
- If mulitplying you can simplify within the same fraction and/or cross cancel. Finish by multiplying numerators and multiplying denominators so that you can write the answer as a single fraction.
- Instead of dividing, multiply by the reciprocal then simplify as you would when multiplying.
- State restrictions on the variable.

Simplify. State restrictions on the variables.
$$v^2 - 16$$
 $v^2 - 3v - 4$

$$\frac{x^{2} - 16}{9x^{2} + 18x} \div \frac{x^{2} - 3x - 4}{3x^{2} + 6x}$$

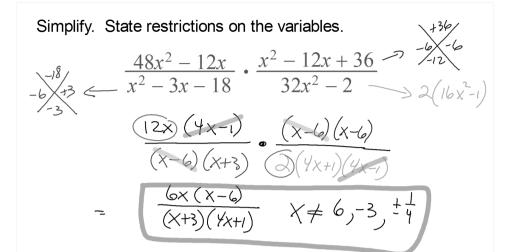
$$\frac{(x+y)(x-y)}{9x(x+2)} \div \frac{(x-y)(x+y)}{3x(x+2)}$$

$$\frac{(x+y)(x-y)}{9x(x+2)} \bullet \frac{3x(x+2)}{(x-y)(x+y)} = \frac{x+y}{3(x+y)}$$

$$\frac{x^{2} - 16}{3x^{2} + 6x} \div \frac{x^{2} - 3x - 4}{3x^{2} + 6x}$$

$$\frac{(x+y)(x-y)}{3x(x+2)} \bullet \frac{x+y}{3(x+y)} = \frac{x+y}{3(x+y)}$$

$$\frac{x+y}{3(x+y)} \bullet \frac{x+y}{3(x+y)} = \frac{x+y}{3(x+y)}$$



You can now finish:

Hwk #7 Sec 9-4

Pages 511

Problems 6, 10, 11, 16, 17

You are also ready for Quiz #2: Sec 9-2 to 9-4

Quiz will be Monday