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

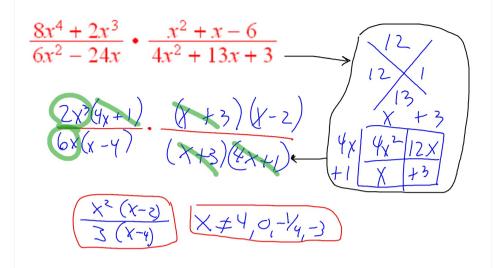
- Factor all numerators and denominators.
- If mulitplying rational expressions you can simplify within the same fraction and/or cross cancel and finally multiply and write as a single fraction.
- Instead of dividing, multiply by the reciprocal then simplify. Write answer as a single fraction.
- State restrictions on the variable.

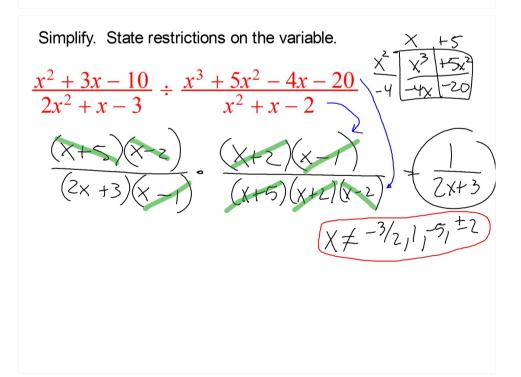
Simplify. State the restrictions on the variables.

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

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

Simplify. State the restrictions on the variables.





Hwk #7 Sec 9-4

Pages 511

Problems 5, 6, 10, 11, 16, 17, 39

Find this sum:

$$\frac{11}{56} + \frac{7}{64}$$

If you factor the denominators first you notice that they already have an 8 in common. Therefore, all you need to do is multiply the first fraction by 8/8 and the second by 7/7 to make the denominators the same.

$$\frac{8}{8} \cdot \frac{11}{7.8} + \frac{7}{8.8} \cdot \frac{7}{7} = \frac{88 + 49}{8.8.7}$$

$$= \frac{137}{4415}$$