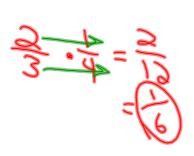
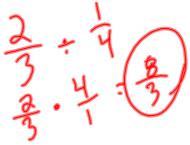
## Chapter 8.4: Multiplying and Dividing Rational Expressions

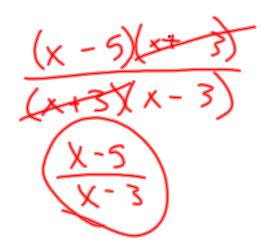
Factor, Factor, Factor...

do the operation





ex. 
$$\frac{x^2 - 2x - 15}{x^2 - 9}$$



A company makes a tin to hold popcorn. The tin is a rectangular prism with a square base. The company is designing a new tin with the same base and twice the height of the old tin.

- Find the surface area and volume of each tin
- Calculate the ratio of surface area to volume for each tin.
- What do the ratios tell you about the efficiencies of the two tins.

## ex. Simplify:

$$\frac{8x^{3}y}{2xy^{2}} \frac{7x^{4}y^{3}}{4y}$$

$$\frac{8x^{3}y}{7x^{4}y^{3}} = \frac{5bx^{7}y^{4}}{8xy^{3}}$$

$$= \frac{7x^{6}y}{7x^{6}y}$$

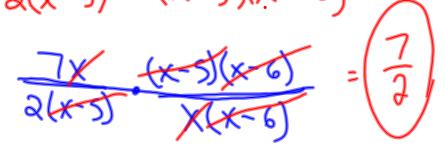
ex. Multiply 
$$\frac{3x-3x^2}{x^2+4x-5} \bullet \frac{x^2+x-20}{3x}$$

$$\frac{x+2}{x^3-27} \bullet \left(x^2+3x+9\right)$$

$$\frac{7x}{2x-10} \div \frac{x^2-6x}{x^2-11x+30}$$

$$\frac{7x}{2x-10} \div \frac{x(x-6)}{x^2-11x+30}$$

$$\frac{7x}{(x-6)} \div \frac{x(x-6)}{(x-6)(x-6)}$$



$$\frac{6x^{2} + x - 15}{4x^{2}} \div (3x^{2} + 5x)$$

$$\frac{6x^{2} + x - 15}{4x^{2}} \div \frac{3x^{2} + 5x}{4x^{3}}$$

$$\frac{6x^{2} + x - 15}{4x^{2}} \div \frac{3x^{2} + 5x}{4x^{3}}$$

$$\frac{90}{910} \underbrace{\frac{3x + 5}{2x - 3}}_{4x^{3}} \times \underbrace{\frac{3x^{2} + 5x}{2x + 5x}}_{4x^{3}}$$

Homework: Ch 8.4 pg.577 #'s 8,12,14,24,30,32,34,38,42