U1D4 Warm-Up: Simplify.
$$\frac{-4x^2y^2-4xy^3}{12x^4y+12x^3y^2}$$

$$4x^2-25$$

 x^2-3x-5

MCR 3UI <u>Multiplying and Dividing Rational Expressions</u>

We multiply and divide rational expressions using the _____ that we do with _____.

When Multiplying, multiply ______ together and _____ together and then _____ to simplify. You could also _____ and then multiply to make your math easier!

When Dividing, multiply by the _____!

Examples: State restrictions and simplify.

(a)
$$\frac{3a^3}{2b^2} \times \frac{10b^2}{9a^2}$$

(b)
$$\frac{y^3}{6} \div \frac{y^2}{-3}$$

(c)
$$\frac{6m^3}{m+3} \times \frac{5m+15}{8m^3}$$

(d)
$$\frac{12a^2-19a+5}{4a^2-9} \div \frac{3a-1}{2a-3}$$

(e)
$$\frac{6x^2 - 7xy + 2y^2}{5x^2 - 3xy - 2y^2} \times \frac{5x^2 + 22xy + 8y^2}{2x^2 + 7xy - 4y^2}$$