U1D3 Warm-Up: Factor. a)  $4a^{2}bc + 20ab^{2}c - 14abc^{2}$ b)  $6x^{2} + 7x - 20$ c)  $2x^{3} - 50x$ 

## MCR 3UI Simplifying Rational Expressions and Stating Restrictions

 What is a Rational Expression?

 An expression written with \_\_\_\_\_\_\_- in the numerator and/or denominator

 (like a fraction, only with \_\_\_\_\_\_!)

 What is a Restriction?

 The value for the \_\_\_\_\_\_ where the expression cannot be defined (whatever value makes the \_\_\_\_\_\_).

Steps to Simplifying Rational Expressions		
1	the numerator and denominator.	
2	out any factors that are common to both the numerator and the	
denominator.		
3	the remaining polynomials.	
4. Determine an	d state the	on each variable.

Examples: Simplify each of the following rational expressions and state the restrictions on the variable.

a) 
$$\frac{6x^5y^3}{24x^2y}$$
 b)  $\frac{4t^2+8t}{4t}$  c)  $\frac{3-2x}{4x-6}$ 

d) 
$$\frac{8x^3 + 4x^2}{6x^2 + 3x}$$
 e)  $\frac{5x^2 + 3x - 2}{4x^2 + x - 3}$  e)  $\frac{9x^2 - 4y^2}{3x^2 + 13xy - 10y^2}$