

Unit 4- Rational Relationships

RATIONAL EXPRESSIONS

- **Simplify:** factor and cancel what is alike on top and bottom
- **Multiply:** Factor and cancel what is alike on top and bottom, then multiply remaining parts to create one fraction
- **Divide:** KEEP, CHANGE, FLIP; factor and cancel what is alike top and bottom and then multiply
- **Adding and Subtracting:** Create a common denominator then add or subtract numerators and then factor and simplifying (when subtracting don't forget to distribute the negative)
- **Complex Fractions:** Create common denominators on top and bottom, KEEP, CHANGE, FLIP, then factor and cancel what is alike, then multiply

Simplify.

$$1.) \frac{3x+6}{2x+4} \cdot \frac{x^2+x-12}{2x^2+5x-12}$$

$$2.) \frac{2}{5x^3} \div \frac{3x-2}{15x^4-10x^5}$$

$$3.) \frac{x-1}{5x} - \frac{x+3}{10}$$

$$4.) \frac{5}{2} + \frac{3x}{5x^2+10x}$$

$$5.) \frac{\frac{2x}{x+3}}{\frac{6x}{6x+18}}$$

$$6.) \frac{\frac{2}{x^2}}{\frac{x-1}{x} + \frac{x}{x-1}}$$