

## Multiply and Dividing Rational Expressions:

- I can simplify a rational expression by factoring
- I can simplify a rational expression by multiplication
- I can simplify a rational expression by division. (multiply by reciprocal)
- I can simplify a complex fraction

1.  $\frac{18x^3}{30x^2}$

2.  $\frac{81x^2y^5}{243xy^3}$

3.  $\frac{16a^6b^2}{24a^3b^5}$

4)  $\frac{7x - 63}{x^2 - 13x + 36}$

5)  $\frac{k^2 - 2k - 3}{k^2 + 4k + 3}$

6)  $\frac{x^2 + 4x - 5}{x + 10} \cdot \frac{1}{x - 1}$

7)  $\frac{2x^2 + 4x}{x^2 - 4x - 12} \cdot \frac{x^2 - 9x + 18}{2x}$

8)  $\frac{16}{b + 5} \cdot \frac{b^2 + 3b - 10}{8b - 16}$

9)  $\frac{a^2 - 9a + 14}{a - 2} \cdot \frac{a + 10}{a - 7}$

10)  $\frac{b - 10}{b^2 - 13b + 30} \div \frac{9b - 27}{b^2 + 7b - 30}$

11)  $\frac{x^2 - 14x + 40}{9x^3 - 36x^2} \div \frac{x^2 - 6x - 40}{2x + 8}$

$$12) \frac{3a^2 - 3a}{a^2 + 7a - 8} \div \frac{3a}{a^2 + 8a + 15}$$

$$13) \frac{x^2 + 7x - 30}{x^2 + 8x - 20} \div \frac{6x + 6}{x + 1}$$

$$14) \frac{\frac{1}{x}}{\frac{x}{x-5}}$$

$$15) \frac{\frac{25}{x^2 - 9}}{\frac{5}{x - 3}}$$

$$16) \frac{\frac{2}{x^2 - 4}}{\frac{4}{x - 2}}$$

$$17) \frac{\frac{u^2}{u + 1}}{\frac{u}{u + 1}}$$