



## 6.2 Rational Expression

Multiplication  
& Division

### Need To Know



- Review multiplication and division of fractions
- Multiplying and dividing rational expressions



## Multiplying Fractions - Review

### Examples

$$\frac{10}{21} \cdot \frac{6}{25}$$

Recall:

$$\frac{a}{b} \cdot \frac{c}{d} = \frac{a c}{b d}$$

### Multiply Factions

1. \_\_\_\_\_
  - a) \_\_\_\_\_
  - b) \_\_\_\_\_
2. \_\_\_\_\_



## Canceling and Reducing Fractions

Reduce each:

$$\frac{4}{4} \quad \frac{4}{12} \quad \frac{a}{3 \cdot a} \quad \frac{x+6}{x+6} \quad \frac{6}{x+6}$$



## Multiply Rational Expressions

Multiply

$$\frac{2a+10}{a^3} \cdot \frac{a^2}{3a+15}$$

### Multiply Fractions

1. Reduce
  - a) Factor
  - b) Divide common factors
2. Multiply/simplify



## Multiply Rational Expressions

Multiply

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

**Multiply Fractions**

1. Reduce
  - a) Factor
  - b) Divide common factors
2. Multiply/simplify



## Multiply Rational Expressions

Multiply

$$\frac{x^2+5x+4}{x^2-6x+8} \cdot \frac{x^2+5x-14}{x^2+8x+7}$$

**Multiply Fractions**

1. Reduce
  - a) Factor
  - b) Divide common factors
2. Multiply/simplify



## Dividing Fractions - Review

### Examples

$$\frac{9}{7} \div \frac{6}{35}$$

Recall:

$$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \cdot \frac{d}{c}$$

### Divide Fractions

1.

2.



## Divide Rational Expressions

Divide

$$\frac{t-3}{t+2} \div \frac{4t-12}{t-1}$$

$$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \cdot \frac{d}{c}$$



## Divide Rational Expressions

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Divide

$$\frac{x^2 - x - 12}{x^2 - 16} \div \frac{x^2 + 6x + 9}{2x + 8}$$

end

