

Name _____

Key

Rational Expression Worksheet #1: Simplifying

Simplify.

1. $\frac{18x^6}{27x^4}$

$$\frac{\cancel{9} \cdot 2 \cdot \cancel{x}^6}{\cancel{9} \cdot 3 \cdot \cancel{x}^4}$$

$$\frac{2 \cdot \cancel{x}^2}{3}$$

4. $\frac{36k^3m}{24k^4mn^5}$

$$\frac{3}{2kn^5}$$

7. $\frac{16a^2b^3c^4}{20a^7b^2c^2}$

$$\frac{4bc^2}{5a^5}$$

2. $\frac{3x^2}{12x}$

$$\frac{x}{4}$$

5. $\frac{12x^2}{9x^2y}$

$$\frac{4}{3y}$$

8. $\frac{120x^3y}{25xy^5}$

$$\frac{\cancel{6} \cdot 2}{\cancel{5} \cdot 5} \frac{\cancel{x}^3 \cdot \cancel{y}}{\cancel{y}^5}$$

$$\frac{24x^2}{5y^4}$$

3. $\frac{10a^3b}{-15ab^3}$

$$\frac{2a^2}{-3b^2}$$

6. $\frac{42x^2}{-36x^3}$

$$\frac{6 \cdot 7 \cdot \cancel{x} \cdot \cancel{x}}{-6 \cdot 6 \cdot \cancel{x} \cdot \cancel{x} \cdot x}$$

$$= -\frac{7}{6x}$$

9. $\frac{-16x^2y^7}{12x^5y^3z^4}$

$$= \frac{-4y^4}{3x^3z^4}$$

Rational Expression Worksheet #3: Simplifying

Simplify. Remember to factor if necessary

$$1. \frac{28x^3}{35x^5}$$

$$\frac{4}{5x^2}$$

$$2. \frac{5x+40}{4x+32}$$

$$3. \frac{36y^2}{12y}$$

$$3y$$

$$4. \frac{x^2+12x+20}{3x+6}$$

$$5. \frac{6x+30}{x^2+8x+15}$$

$$6. \frac{25a^3b^7}{-15a^8b^3}$$

$$\frac{6(x+5)}{(x+5)(x+3)}$$

$$= \frac{6}{x+3}$$

$$7. \frac{5x-15}{x^2-3x}$$

$$8. \frac{38k^2m^2n}{24k^4mn^5}$$

$$9. \frac{7x-14}{x^2-2x}$$

$$\frac{5(\cancel{x-3})}{x(\cancel{x-3})} = \frac{5}{x}$$

$$\frac{7(\cancel{x-2})}{x(\cancel{x-2})} = \frac{7}{x}$$

$$10. \frac{-16x^2y^5z}{8x^3y^2z^2}$$

$$11. \frac{x^2-6x+8}{x^2+2x-24}$$

$$12. \frac{9x+9}{x^2+8x+7}$$

$$\frac{(\cancel{x-4})(x-2)}{(x+6)(\cancel{x-4})}$$

$$= \frac{x-2}{x+6}$$

$$13. \frac{x^2+3x-28}{x^2-2x-8}$$

$$14. \frac{x^2-7x+6}{x^2-6x}$$

$$15. \frac{36a^5b^2c^6}{42a^7b^2c^2}$$

$$\frac{(x+7)(\cancel{x-4})}{(\cancel{x-4})(x+2)} = \frac{x+7}{x+2}$$

$$\frac{6c^4}{7a^2}$$