

Name Key

Rational Expression Worksheet #2: Simplifying

Simplify. Remember to factor if necessary

1. $\frac{28x^3}{35x^5} \quad x \neq 0$

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

2. $\frac{5x+40}{4x+32} \quad \begin{matrix} 4x+32 \neq 0 \\ x \neq -8 \end{matrix}$

$$\frac{5(\cancel{x+8})}{4(\cancel{x+8})} = \boxed{\frac{5}{4}}$$

3. $\frac{36y^2}{12y} \quad y \neq 0$

$$\boxed{3y}$$

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

$$\frac{(x+2)(x+10)}{3(\cancel{x+2})} = \boxed{\frac{x+10}{3}}$$

5. $\frac{6x+30}{x^2+8x+15} \quad x \neq -3, -5$

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

6. $\frac{25a^3b^7}{-15a^8b^3} \quad \begin{matrix} a \neq 0 \\ b \neq 0 \end{matrix}$

$$\boxed{\frac{-5b^4}{3a^5}}$$

7. $\frac{5x-15}{x^2-3x} \quad x \neq 3, 0$

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

8. $\frac{38k^2m^2n}{24k^4mn^5} \quad \begin{matrix} k \neq 0 \\ m \neq 0 \\ n \neq 0 \end{matrix}$

$$\boxed{\frac{19m}{12k^2n^4}}$$

9. $\frac{7x-14}{x^2-2x} \quad x \neq 0, 2$

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

10. $\frac{-16x^2y^5z}{8x^3y^2z^2} \quad \begin{matrix} x \neq 0 \\ y \neq 0 \\ z \neq 0 \end{matrix}$

$$\boxed{\frac{-2y^3}{xz}}$$

11. $\frac{x^2-6x+8}{x^2+2x-24} \quad x \neq 4, -6$

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

12. $\frac{9x+9}{x^2+8x+7} \quad x \neq -1, -7$

$$\frac{9(\cancel{x+1})}{(\cancel{x+1})(x+7)} = \boxed{\frac{9}{x+7}}$$

13. $\frac{x^2+3x-28}{x^2-2x-8} \quad x \neq 4, -2$

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

14. $\frac{x^2-7x+6}{x^2-6x} \quad x \neq 6, 0$

$$\frac{(\cancel{x-6})(x-1)}{x(\cancel{x-6})} = \boxed{\frac{x-1}{x}}$$

15. $\frac{36a^5b^2c^6}{42a^7b^2c^2} \quad \begin{matrix} a \neq 0 \\ b \neq 0 \\ c \neq 0 \end{matrix}$

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