

Name: Key

Unit 10: Rational Expressions



Date: _____ Bell: _____

Homework 1: Simplifying Rational Expressions

Directions: Simplify the following rational expressions.

1. $\frac{12ab}{6a^2b^2}$

$$\frac{2}{ab}$$

2. $\frac{7n^3}{21n^8}$

$$\frac{1}{3n^5}$$

3. $\frac{4x^2yz^5}{6x^2y^3z^2}$

$$\frac{2z^3}{3y^2}$$

4. $\frac{x+2}{x^2-4}$

$$\frac{\cancel{x+2}}{(\cancel{x+2})(x-2)} = \frac{1}{x-2}$$

5. $\frac{2n-8}{n^2-16}$

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

6. $\frac{5b-10}{b^2+5b-14}$

$$\frac{5(\cancel{b-2})}{(b+7)(\cancel{b-2})} = \frac{5}{b+7}$$

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

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

8. $\frac{y^2-25}{y^2-4y-5}$

$$\frac{(y+5)(\cancel{y-5})}{(\cancel{y-5})(y+1)} = \frac{y+5}{y+1}$$

9. $\frac{x^2+6x-16}{x^2-11x+18}$

$$\frac{(x+8)(\cancel{x-2})}{(x-9)(\cancel{x-2})} = \frac{x+8}{x-9}$$

10. $\frac{8a^3-10a}{20a^3-25a}$

$$\frac{2a(\cancel{4a^2-5})}{5a(\cancel{4a^2-5})} = \frac{2}{5}$$

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

$$\frac{(x+3)(\cancel{x-2})}{2(\cancel{x-2})(x+2)} = \frac{x+3}{2x+4}$$

12. $\frac{m^2-2m+1}{2m^2-m-1}$

$$\frac{(\cancel{m-1})(m+1)}{(\cancel{m-1})(2m+1)} = \frac{m+1}{2m+1}$$

13. $\frac{2h^2-4h-6}{2h^2-8h-10}$

$$\frac{2(\cancel{h^2-2h-3})}{2(\cancel{h^2-4h-5})} = \frac{h-3}{h-5}$$

14. $\frac{5a^2-9a-2}{a^2+4a-12}$

$$\frac{(a-2)(5a+1)}{(a+6)(\cancel{a-2})} = \frac{5a+1}{a+6}$$

15. $\frac{4y^2-y-3}{4y^2-17y-15}$

$$\frac{(\cancel{4y+3})(y-1)}{(\cancel{4y+3})(y-5)} = \frac{y-1}{y-5}$$