Algebra 2 Trig
Rational Expression Review

Name _____ Per _____

Complete the following problems on separate paper. Write your answers in the blank provided.

Multiplying and Dividing Rational Expressions/Complex Fractions

Steps:

1. $\frac{a+y}{6} \bullet \frac{4}{y+a}$ 1. _____

2. $\frac{x^2-5x-24}{6x+2x^2} \bullet \frac{5x^2}{x-8}$ 2. _____

3. $\frac{x^2+9x+20}{x^2+6x+9} \bullet \frac{x+3}{x+4}$ 3. _____

4. $\frac{x^3-y^3}{x^2-y^2} \bullet \frac{x^2+2xy+y^2}{x^2+xy}$ 4. _____

5. $\frac{x+1}{5xy} \div \frac{x+1}{4x^2y}$ 5. _____

6. $\frac{x+y}{6} \div \frac{x^2-y^2}{3}$ 6. _____

7. $\frac{x^3}{x^2-64} \div \frac{x^2}{x+8}$ 7. _____

8. $\frac{x^2-6x+8}{3x-12} \div \frac{x^2-4}{x^2+5x+6}$ 8. _____

9. $\frac{a-y}{w+n} \bullet \frac{w^2-n^2}{-y+a}$ 9. _____

10. $\dfrac{x+\frac{x}{3}}{x-\frac{x}{6}}$ 10. _____

11. $\dfrac{\frac{1}{a}+\frac{1}{b}}{\frac{1}{a}-\frac{1}{b}}$ 11. _____

12. $\dfrac{\frac{x^2+x}{x+1}}{\frac{x}{x-1}}$ 12. _____

Adding and Subtracting Rational Expressions

Steps:

13. $c + \frac{2}{c+1}$ 13. _____

14. $\frac{5}{3} - \frac{1}{2m}$ 14. _____

15. $\frac{4}{m+1} + \frac{3}{m-2}$ 15. _____

16. $\frac{-7xy}{3x} + \frac{4y^2}{2y}$ 16. _____

17. $\frac{y}{y+3} - \frac{6y}{y^2-9}$ 17. _____

18. $\frac{3x+3}{x^2+2x+1} + \frac{x-1}{x^2-1}$ 18. _____

19. $\frac{1}{h^2-9h+20} - \frac{5}{h^2-10h+25}$ 19. _____

20. $\frac{5a^2}{6b} + \frac{9}{14a^2b^2}$ 20. _____

Rational Equations

Steps

21. $\frac{12}{x} + \frac{3}{4} = \frac{3}{2}$ 21. _____

22. $\frac{1}{3x-2} + \frac{5}{x} = 0$ 22. _____

23. $b + \frac{2b}{b-1} = 1 - \frac{b-3}{b-1}$ 23. _____

24. $\frac{x^2+4}{x^2-4} + \frac{x}{2-x} = \frac{2}{x+2}$ 24. _____

Rational Inequalities

Steps

25. $\frac{5}{t} < + \frac{9}{t+1}$ 25. _____

26. $\frac{4}{5x} + \frac{1}{10} < \frac{3}{2x}$ 26. _____