

QUIZ REVIEW: OPERATIONS OF RATIONAL EXPRESSIONS

Name: _____

Simplify the following expressions.

1. $\frac{x^2 - 16}{x^2 + x - 12}$	2. $\frac{x^2 - 2x + 1}{x^2 - 1}$	3. $\frac{x^2 - 8x + 12}{x^2 + 3x - 10}$
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Multiply and simplify.

4. $\frac{12x^2y}{5y^2} \cdot \frac{2xy}{3x^2}$	5. $\frac{x^2 - 2x}{x^2 + 2x + 1} \cdot \frac{x^2 + 4x + 3}{x^2 + 3x}$
6. $\frac{x-8}{12x^2} \cdot \frac{6x}{8-x}$	7. $\frac{3x^2 - 12}{5x - 10} \cdot \frac{1}{2x + 4}$

Divide and simplify.

8. $\frac{x^2}{x^2 - 1} \div \frac{3x}{x + 1}$	9. $\frac{x^2 - 9x - 22}{x^2 + 5x - 24} \div \frac{x + 2}{x - 3}$	10. $\frac{x^2 + 4x - 5}{x^3 - 1} \div \frac{4x^2 - 100}{2x^2 - 2x + 2}$
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Add/Subtract.

11. $\frac{12}{x^2 + 5x - 24} + \frac{3}{x - 3}$	12. $\frac{9}{x - 3} + \frac{2x}{x + 1}$
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13. $\frac{x+4}{x^2-4} - \frac{15}{x-2}$

14. $\frac{-15x}{x^2-8x+16} + \frac{12}{2x^2-8x}$

15. $\frac{x}{x^2-9} + \frac{x+1}{x^2+6x+9}$

16. $\frac{x+3}{x^2-2x-8} - \frac{x-5}{x^2-12x+32}$

Do you need an LCD?

For each problem, determine if an LCD is needed to solve the problem. If not, cross out the problem. If so, determine the LCD. You do not need to solve the problems.

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

LCD = _____

2. $\frac{3}{x^2-9} + \frac{9}{x+3}$

LCD = _____

3. $\frac{8x^2}{4x+16} \cdot \frac{x+2}{2x}$

LCD = _____

4. $\frac{2x^2+7x+6}{x^2-3x-10} \div \frac{x+1}{5-x}$

LCD = _____

5. $\frac{x-3}{x+2} - \frac{3x+6}{2x-4}$

LCD = _____

6. $\frac{x}{2x^2-4x-6} + \frac{5-x}{x+1}$

LCD = _____

7. $\frac{x+5}{2x-1} + (3x-1)$

LCD = _____

8. $\frac{3xyz}{9x^3y} + \frac{-2}{y^5z^2}$

LCD = _____

