Algebra II: Module 9 Test Review Name:_____

1) Simplify and State the excluded values?

$$\frac{x^2 - 4x - 12}{x^2 - 4}$$

2) What is the LCD of the rational expressions below?

$$\frac{3x + 1}{x^2 - 7x} and \frac{x + 5}{x^2 - 6x - 7}$$

3) What is the solution to the equation?

$$\frac{-2}{x + 3} - 1 = 0$$

For 4-5, add or subtract the given expressions. Give each result in simplest form and state the combined excluded values.

4) $\frac{7}{x^2+8x+15} - \frac{3}{x+5}$

5) $\frac{8x-1}{x^2+x-6} - \frac{2x+1}{x-2} + \frac{3}{x+3}$

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For 6-7, multiply or divide the given expressions. Give each result in simplest form and state any excluded values.

6) $\frac{x^2+2x-35}{x^2-7x+12} \div \frac{x^2-13x+40}{3x^2-12x}$

7) $\frac{x^2-x-20}{x+4} \cdot \frac{x-3}{x^2-2x-15}$

For 8–10, solve each rational equation algebraically.

8) $\frac{-2}{x+3} = \frac{1}{x+1}$

9) $\frac{1}{2x} + \frac{x}{3} = 1$

10) $\frac{8x-1}{x^2+x-6} - \frac{2x+1}{x-2} = \frac{2}{x+3}$