

## Learning Activity – Section 4.2 – Addition and Subtraction of Rational Expressions

Names: \_\_\_\_\_

\_\_\_\_\_

Add or subtract as indicated and then simplify the result.

$$1. \frac{x^2 + 10x}{x + 8} + \frac{16}{x + 8}$$

$$2. \frac{x^2}{x^2 - 36} - \frac{x + 42}{x^2 - 36}$$

Determine the LCD for the group of fractions.

$$3. \frac{8x - 1}{7x^3y^2}, \frac{-1}{49x^5yz^3}$$

$$4. \frac{-3x^2}{x^2 - 10x + 24}, \frac{3x}{3x - 18}$$

Convert each expression to an equivalent expression with the indicated denominator: Fill in the blanks to determine the required factor of something / itself = 1, and fill in the missing numerator of the new, equivalent fraction.

$$5. \frac{3}{10x^2y} \cdot \frac{\quad}{\quad} = \frac{\quad}{90x^3yz^2}$$

$$6. \frac{-9x}{x - 7} \cdot \frac{\quad}{\quad} = \frac{\quad}{x^2 - 49}$$

Add or subtract as indicated and then simplify the result.

7.  $\frac{7}{12x} + \frac{5}{4x^3}$

8.  $\frac{8x-3}{16x+28} - \frac{x-7}{4x+7}$

9.  $\frac{x^2+13x-20}{x^2-25} + \frac{x-1}{x+5}$