A. Solve by Cross Multiplying. Show a complete check.

1. \( \frac{3}{x+1} = \frac{9}{4x+5} \)

2. \( \frac{-6}{x+2} = \frac{-12}{x-1} \)

B. Solve by Eliminating Denominators. Show a complete check.

3. \( \frac{5}{x} + \frac{7}{4} = -\frac{9}{x} \)

4. \( 1 - \frac{8}{x-5} = \frac{3}{x} \)

5. \( \frac{6}{x-3} = \frac{8x^2}{x^2-9} - \frac{4x}{x+3} \)

6. \( \frac{5x}{x-2} = 7 + \frac{10}{x-2} \)
C. Word Problem

1. An alloy is formed by mixing 2 or more metals together. Sterling silver is an alloy composed of 92.5% silver and 7.5% copper by weight. Jewelry silver is composed of 80% silver and 20% copper by weight. How much pure silver should you mix with 15 ounces of jewelry silver to make sterling silver?

2. The cost of fueling your car for one year can be calculated using the equation:

\[
\text{Fuel cost for one year} = \frac{\text{Miles driven} \times \text{Price per gallon}}{\text{fuel efficiency rate}}
\]

a. Last year you drove 12,500 miles, paid $2.15 per gallon of gasoline, and spent a total of $1225.50 on gasoline. What is the fuel efficiency rate of your car?

b. How much would you have saved if your car's fuel efficiency rate was 32 miles per gallon?