Name: _____

Using Multiplicative Inverses to Solve Equations

Solve the equation. Check your solution.

1) $\frac{4}{9}x = -16$

2) $-\frac{2}{3}x = \frac{6}{7}$

3) $-\frac{7}{12}x = 28$

4) $\frac{1}{3}x + 5 = 11$

5) $\frac{7}{8}x - 9 = 5$

6) $-\frac{3}{4}x + \frac{3}{8} = \frac{27}{32}$

7) $\frac{2}{9}x = 12$

8) $-\frac{5}{12}x = 25$

9) $\frac{3}{8}x = 15$

10) $-\frac{1}{6}x = 8$

11) $\frac{2}{5}x = -\frac{8}{15}$

12) $-\frac{17}{22}x = \frac{4}{11}$

13) $\frac{5}{7}x = -\frac{9}{14}$

14) $-\frac{10}{21}x = \frac{2}{3}$

15) Solve the equation $\frac{3}{7}x = 5$ by using a multiplicative inverse. Then solve the equation by dividing each side of the equation by $\frac{3}{7}$. Compare these two methods of solving the equation. How are they alike? How are they different?

Solve the equation. Check your solution.

16) $\frac{4}{9}x + 7 = 31$

17) $\frac{7}{11}x + (-17) = 4$

18) $4 + \left(-\frac{3}{5}\right)x = 16$

19) $\frac{5}{14} + \frac{2}{7}x = 1\frac{5}{42}$

20) $\frac{2}{13} = \frac{8}{13}x + \frac{4}{13}$

21) $-\frac{8}{17} = \frac{11}{17} - \frac{5}{17}x$

22) $\frac{13}{15}x - \frac{7}{9} = -\frac{1}{5}$

23) $-\frac{5}{48} = -\frac{5}{6} + \frac{5}{16}x$

24) $\frac{7}{8}x - \frac{9}{10} = -\frac{1}{8}$