In Problems 1-3, use the fact that if $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ then $A^{-1} = \dfrac{1}{ad - bc} \begin{bmatrix} d & -b \\ -c & a \end{bmatrix}$ to find the inverse of

each matrix, if possible

1. $A = \begin{bmatrix} \frac{4}{5} & -\frac{1}{5} \\ \frac{3}{5} & -\frac{2}{5} \end{bmatrix}$	2. $A = \begin{bmatrix} -\frac{1}{11} & \frac{2}{11} \\ \frac{3}{11} & \frac{5}{11} \end{bmatrix}$
3. No inverse	

In Problems 4-8, find A^{-1}

4. $A = \begin{bmatrix} \frac{2}{7} & \frac{1}{7} \\ -\frac{3}{14} & -\frac{5}{14} \end{bmatrix}$	5. $A = \begin{bmatrix} \frac{7}{54} & \frac{1}{36} & \frac{5}{108} \\ -\frac{1}{27} & \frac{5}{18} & \frac{7}{54} \\ -\frac{1}{36} & -\frac{1}{24} & \frac{7}{72} \end{bmatrix}$
6. $A = \begin{bmatrix} \frac{15}{61} & \frac{6}{61} & -\frac{10}{61} \\ \frac{3}{61} & -\frac{11}{61} & -\frac{2}{61} \\ -\frac{10}{61} & -\frac{4}{61} & -\frac{7}{122} \end{bmatrix}$	7. $A = \begin{bmatrix} \frac{6}{35} & -\frac{1}{10} & -\frac{1}{35} \\ \frac{12}{35} & \frac{3}{10} & -\frac{2}{35} \\ \frac{17}{35} & \frac{3}{10} & \frac{3}{35} \end{bmatrix}$
8. $A = \begin{bmatrix} -\frac{1}{148} & -\frac{23}{296} & \frac{29}{296} & -\frac{53}{296} \\ \frac{11}{148} & -\frac{43}{296} & -\frac{23}{296} & -\frac{9}{296} \\ \frac{67}{148} & \frac{61}{296} & -\frac{167}{296} & -\frac{1}{296} \\ -\frac{2}{37} & -\frac{9}{74} & \frac{21}{74} & \frac{5}{74} \end{bmatrix}$	

In Problems 9-11, solve the linear system using matrices.

9. $\left(\dfrac{-1}{7}, \dfrac{-53}{7}, 6 \right)$	10. $\left(\dfrac{-5}{4}, \dfrac{7}{4}, 3 \right)$
11. $\left(\dfrac{-103}{3}, -6, \dfrac{-52}{3}, -9 \right)$	