

K matici A určete matici inverzní A^{-1} .
 For given matrix A find its inverse A^{-1} .

$$1) A = \begin{pmatrix} 6 & -4 & -17 \\ -1 & 1 & 3 \\ 2 & -1 & -6 \end{pmatrix}$$

$$\begin{array}{ccc|ccc} 6 & -4 & -17 & 1 & 0 & 0 \\ \boxed{-1} & 1 & 3 & 0 & 1 & 0 \\ 2 & -1 & -6 & 0 & 0 & 1 \\ \hline -1 & 1 & 3 & 0 & 1 & 0 \\ 0 & 2 & 1 & 1 & 6 & 0 \\ 0 & \boxed{1} & 0 & 0 & 2 & 1 \\ \hline -1 & 0 & 3 & 0 & -1 & -1 \\ 0 & 1 & 0 & 0 & 2 & 1 \\ 0 & 0 & \boxed{1} & 1 & 2 & -2 \\ \hline 1 & 0 & 0 & 3 & 7 & -5 \\ 0 & 1 & 0 & 0 & 2 & 1 \\ 0 & 0 & 1 & 1 & 2 & -2 \end{array}$$

$$A^{-1} = \begin{pmatrix} 3 & 7 & -5 \\ 0 & 2 & 1 \\ 1 & 2 & -2 \end{pmatrix}$$

$$2) A = \begin{pmatrix} -1 & 2 & 3 \\ 2 & 0 & 1 \\ 1 & 1 & 2 \end{pmatrix}$$

$$\begin{array}{ccc|ccc} \boxed{-1} & 2 & 3 & 1 & 0 & 0 \\ 2 & 0 & 1 & 0 & 1 & 0 \\ 1 & 1 & 2 & 0 & 0 & 1 \\ \hline -1 & 2 & 3 & 1 & 0 & 0 \\ 0 & 4 & 7 & 2 & 1 & 0 \\ 0 & \boxed{3} & 5 & 1 & 0 & 1 \\ \hline -1 & 2 & 3 & 1 & 0 & 0 \\ 0 & \boxed{1} & 2 & 1 & 1 & -1 \\ 0 & 3 & 5 & 1 & 0 & 1 \\ \hline -1 & 0 & -1 & -1 & -2 & 2 \\ 0 & 1 & 2 & 1 & 1 & -1 \\ 0 & 0 & \boxed{1} & 2 & 3 & -4 \\ \hline 1 & 0 & 0 & -1 & -1 & 2 \\ 0 & 1 & 0 & -3 & -5 & 7 \\ 0 & 0 & 1 & 2 & 3 & -4 \end{array}$$

$$A^{-1} = \begin{pmatrix} -1 & -1 & 2 \\ -3 & -5 & 7 \\ 2 & 3 & -4 \end{pmatrix}$$

$$3) A = \begin{pmatrix} 3 & 1 & 2 \\ 0 & 2 & 1 \\ -1 & 3 & 3 \end{pmatrix}$$

$$\begin{array}{ccc|ccc} 3 & 1 & 2 & 1 & 0 & 0 \\ 0 & 2 & 1 & 0 & 1 & 0 \\ \boxed{-1} & 3 & 3 & 0 & 0 & 1 \\ \hline -1 & 3 & 3 & 0 & 0 & 1 \\ 0 & \boxed{2} & 1 & 0 & 1 & 0 \\ 0 & 10 & 11 & 1 & 0 & 3 \end{array}$$

$$\begin{array}{ccc|ccc} -2 & 0 & 3 & 0 & -3 & 2 \\ 0 & 12 & 6 & 0 & 6 & 0 \\ 0 & 0 & \boxed{6} & 1 & -5 & 3 \\ \hline 4 & 0 & 0 & 1 & 1 & -1 \\ 0 & 12 & 0 & -1 & 11 & -3 \\ 0 & 0 & 12 & 2 & -10 & 6 \\ \hline 12 & 0 & 0 & 3 & 3 & -3 \\ 0 & 12 & 0 & -1 & 11 & -3 \\ 0 & 0 & 12 & 2 & -10 & 6 \end{array}$$

$$A^{-1} = \frac{1}{12} \begin{pmatrix} 3 & 3 & -3 \\ -1 & 11 & -3 \\ 2 & -10 & 6 \end{pmatrix}$$

$$4) A = \begin{pmatrix} 2 & 0 & 3 \\ -3 & 3 & 1 \\ -3 & 2 & -2 \end{pmatrix}$$

$$\begin{array}{ccc|ccc} \boxed{2} & 0 & 3 & 1 & 0 & 0 \\ -3 & 3 & 1 & 0 & 1 & 0 \\ -3 & 2 & -2 & 0 & 0 & 1 \\ \hline 2 & 0 & 3 & 1 & 0 & 0 \\ 0 & 6 & 11 & 3 & 2 & 0 \\ 0 & \boxed{4} & 5 & 3 & 0 & 2 \\ \hline 2 & 0 & 3 & 1 & 0 & 0 \\ 0 & 4 & 5 & 3 & 0 & 2 \\ 0 & 0 & \boxed{7} & -3 & 4 & -6 \\ \hline 14 & 0 & 0 & 16 & -12 & 18 \\ 0 & -28 & 0 & -36 & 20 & -44 \\ 0 & 0 & 7 & -3 & 4 & -6 \\ \hline 7 & 0 & 0 & 8 & -6 & 9 \\ 0 & 7 & 0 & 9 & -5 & 11 \\ 0 & 0 & 7 & -3 & 4 & -6 \end{array}$$

$$A^{-1} = \frac{1}{7} \begin{pmatrix} 8 & -6 & 9 \\ 9 & -5 & 11 \\ -3 & 4 & -6 \end{pmatrix}$$

$$5) A = \begin{pmatrix} 3 & -2 & 1 \\ 2 & 0 & -1 \\ 1 & -3 & 3 \end{pmatrix}$$

$$\begin{array}{ccc|ccc} 3 & -2 & 1 & 1 & 0 & 0 \\ 2 & 0 & -1 & 0 & 1 & 0 \\ \boxed{1} & -3 & 3 & 0 & 0 & 1 \\ \hline 1 & -3 & 3 & 0 & 0 & 1 \\ 0 & \boxed{6} & -7 & 0 & 1 & -2 \\ 0 & 7 & -8 & 1 & 0 & -3 \\ \hline 1 & -3 & 3 & 0 & 0 & 1 \\ 0 & 6 & -7 & 0 & 1 & -2 \\ 0 & \boxed{1} & -1 & 1 & -1 & -1 \\ \hline 1 & 0 & 0 & 3 & -3 & -2 \\ 0 & 1 & -1 & 1 & -1 & -1 \\ 0 & 0 & \boxed{-1} & -6 & 7 & 4 \end{array}$$

$$\begin{array}{ccc|ccc} 1 & 0 & 0 & 3 & -3 & -2 \\ 0 & 1 & 0 & 7 & -8 & -5 \\ 0 & 0 & 1 & 6 & -7 & -4 \end{array}$$

$$A^{-1} = \begin{pmatrix} 3 & -3 & -2 \\ 7 & -8 & -5 \\ 6 & -7 & -4 \end{pmatrix}$$

$$6) A = \begin{pmatrix} 1 & 0 & 4 \\ 1 & -1 & 1 \\ 1 & 2 & 6 \end{pmatrix}$$

$$\begin{array}{ccc|ccc} 1 & 0 & 4 & 1 & 0 & 0 \\ \boxed{1} & -1 & 1 & 0 & 1 & 0 \\ 1 & 2 & 6 & 0 & 0 & 1 \\ \hline 1 & -1 & 1 & 0 & 1 & 0 \\ 0 & \boxed{1} & 3 & 1 & -1 & 0 \\ 0 & 3 & 5 & 0 & -1 & 1 \\ \hline 1 & 0 & 4 & 1 & 0 & 0 \\ 0 & 1 & 3 & 1 & -1 & 0 \\ 0 & 0 & \boxed{-4} & -3 & 2 & 1 \\ \hline 1 & 0 & 0 & -2 & 2 & 1 \\ 0 & 4 & 0 & -5 & 2 & 3 \\ 0 & 0 & 4 & 3 & -1 & -1 \\ \hline 4 & 0 & 0 & -8 & 8 & 4 \\ 0 & 4 & 0 & -5 & 2 & 3 \\ 0 & 0 & 4 & 3 & -1 & -1 \end{array}$$

$$A^{-1} = \frac{1}{4} \cdot \begin{pmatrix} -8 & 8 & 4 \\ -5 & 2 & 3 \\ 3 & -2 & -1 \end{pmatrix}$$

$$7) A = \begin{pmatrix} 2 & 1 & 1 \\ 1 & 2 & 2 \\ -1 & 0 & -1 \end{pmatrix}$$

$$\begin{array}{ccc|ccc} 2 & 1 & 1 & 1 & 0 & 0 \\ 1 & 2 & 2 & 0 & 1 & 0 \\ \boxed{-1} & 0 & -1 & 0 & 0 & 1 \\ \hline 1 & 0 & 1 & 0 & 0 & -1 \\ 0 & \boxed{1} & -1 & 1 & 0 & 2 \\ 0 & 2 & 1 & 0 & 1 & 1 \\ \hline 1 & 0 & 1 & 0 & 0 & -1 \\ 0 & 1 & -1 & 1 & 0 & 2 \\ 0 & 0 & 3 & -2 & 1 & -3 \\ \hline 3 & 0 & 3 & 0 & 0 & -3 \\ 0 & 3 & -3 & 3 & 0 & 6 \\ 0 & 0 & \boxed{3} & -2 & 1 & -3 \\ \hline 3 & 0 & 0 & 2 & -1 & 0 \\ 0 & 3 & 0 & 1 & 1 & 3 \\ 0 & 0 & 3 & -2 & 1 & -3 \end{array}$$

$$A^{-1} = \frac{1}{3} \begin{pmatrix} 2 & -1 & 0 \\ 1 & 1 & 3 \\ -2 & 1 & -3 \end{pmatrix}$$

$$8) A = \begin{pmatrix} 1 & 0 & 4 \\ 1 & -1 & 1 \\ 1 & 2 & 6 \end{pmatrix}$$

$$\begin{array}{ccc|ccc} 1 & 0 & 4 & 1 & 0 & 0 \\ 1 & -1 & 1 & 0 & 1 & 0 \\ 1 & 2 & 6 & 0 & 0 & 1 \\ \hline 1 & 0 & 4 & 1 & 0 & 0 \\ 0 & -1 & -3 & -1 & 1 & 0 \\ 0 & 2 & 2 & -1 & 0 & 1 \\ \hline 1 & 0 & 4 & 1 & 0 & 0 \\ 0 & 1 & 3 & 1 & -1 & 0 \\ 0 & 0 & -4 & -3 & 2 & 1 \\ \hline 1 & 0 & 0 & -2 & 2 & 1 \\ 0 & 4 & 0 & -5 & 2 & 3 \\ 0 & 0 & 4 & 3 & -2 & -1 \end{array}$$

$$A^{-1} = \frac{1}{4} \begin{pmatrix} -8 & 8 & 4 \\ -5 & 2 & 3 \\ 3 & -2 & -1 \end{pmatrix}$$

$$9) A = \begin{pmatrix} 5 & -1 & 5 \\ 2 & 0 & 2 \\ -3 & -3 & 1 \end{pmatrix}$$

$$\begin{array}{ccc|ccc} 5 & -1 & 5 & 1 & 0 & 0 \\ 2 & 0 & 2 & 0 & 1 & 0 \\ -3 & -3 & 1 & 0 & 0 & 1 \\ \hline 5 & -1 & 5 & 1 & 0 & 0 \\ 2 & 0 & 2 & 0 & 1 & 0 \\ \boxed{-1} & -3 & 3 & 0 & 1 & 1 \\ \hline -1 & -3 & 3 & 0 & 1 & 1 \\ 0 & -16 & 20 & 1 & 5 & 5 \\ 0 & -6 & 8 & 0 & 3 & 2 \\ \hline -1 & -3 & 3 & 0 & 1 & 1 \\ 0 & \boxed{2} & -4 & 1 & -4 & -1 \\ 0 & -6 & 8 & 0 & 3 & 2 \\ \hline 2 & 0 & 6 & -3 & 1 & 1 \\ 0 & 2 & 4 & 1 & -4 & -1 \\ 0 & 0 & \boxed{-4} & 3 & -9 & -1 \\ \hline 4 & 0 & 0 & 3 & -7 & -1 \\ 0 & 2 & 0 & -2 & 5 & 0 \\ 0 & 0 & 4 & -3 & 9 & 1 \\ \hline 4 & 0 & 0 & 3 & -7 & -1 \\ 0 & 4 & 0 & -4 & 10 & 0 \\ 0 & 0 & 4 & -3 & 9 & 1 \end{array}$$

$$A^{-1} = \frac{1}{4} \begin{pmatrix} 3 & -7 & -1 \\ -4 & 10 & 0 \\ -3 & 9 & 1 \end{pmatrix}$$

$$10) A = \begin{pmatrix} 1 & 4 & 3 \\ 1 & 3 & 3 \\ 2 & 5 & 3 \end{pmatrix}$$

$$\begin{array}{ccc|ccc} \boxed{1} & 4 & 3 & 1 & 0 & 0 \\ 1 & 3 & 3 & 0 & 1 & 0 \\ 2 & 5 & 3 & 0 & 0 & 1 \\ \hline 1 & 4 & 3 & 1 & 0 & 0 \\ 0 & \boxed{-1} & 0 & -1 & 1 & 0 \\ 0 & -3 & -3 & -2 & 0 & 1 \end{array}$$

$$\begin{array}{ccc|ccc}
 1 & 0 & 3 & -3 & 4 & 0 \\
 0 & -1 & 0 & -1 & 1 & 0 \\
 0 & 0 & \boxed{-3} & 1 & -3 & 1 \\
 \hline
 1 & 0 & 0 & -2 & 1 & 1 \\
 0 & 1 & 0 & 1 & -1 & 0 \\
 0 & 0 & -3 & 1 & -3 & 1 \\
 \hline
 3 & 0 & 0 & -6 & 3 & 3 \\
 0 & 3 & 0 & 3 & -3 & 0 \\
 0 & 0 & 3 & -1 & 3 & -1
 \end{array}$$

$$A^{-1} = \frac{1}{3} \begin{pmatrix} -6 & 3 & 3 \\ 3 & -3 & 0 \\ -1 & 3 & -1 \end{pmatrix}$$

$$11) A = \begin{pmatrix} 2 & 2 & 2 & 2 \\ 1 & 2 & 1 & -2 \\ 1 & 0 & 1 & 0 \\ 2 & 0 & 0 & 2 \end{pmatrix}$$

$$\begin{array}{cccc|cccc}
 2 & 2 & 2 & 2 & 1 & 0 & 0 & 0 \\
 1 & 2 & 1 & -2 & 0 & 1 & 0 & 0 \\
 \boxed{1} & 0 & 1 & 0 & 0 & 0 & 1 & 0 \\
 2 & 0 & 0 & 2 & 0 & 0 & 0 & 1 \\
 \hline
 1 & 0 & 1 & 0 & 0 & 0 & 1 & 0 \\
 0 & \boxed{2} & 0 & 2 & 1 & 0 & -2 & 0 \\
 0 & 2 & 0 & -2 & 0 & 1 & -1 & 0 \\
 0 & 0 & -2 & 2 & 0 & 0 & -2 & 1 \\
 \hline
 1 & 0 & 1 & 0 & 0 & 0 & 1 & 0 \\
 0 & 2 & 0 & 2 & 1 & 0 & -2 & 0 \\
 0 & 0 & 0 & -4 & -1 & 1 & 1 & 0 \\
 0 & 0 & \boxed{-2} & 2 & 0 & 0 & -2 & 1 \\
 \hline
 2 & 0 & 0 & 2 & 0 & 0 & 0 & 1 \\
 0 & 2 & 0 & 2 & 1 & 0 & -2 & 0 \\
 0 & 0 & -2 & 2 & 0 & 0 & -2 & 1 \\
 0 & 0 & 0 & \boxed{4} & 1 & -1 & -1 & 0 \\
 \hline
 4 & 0 & 0 & 0 & -1 & 1 & 1 & 2 \\
 0 & 4 & 0 & 0 & 1 & 1 & -3 & 0 \\
 0 & 0 & 4 & 0 & 1 & -1 & 3 & -2 \\
 0 & 0 & 0 & 4 & 1 & -1 & -1 & 0
 \end{array}$$

$$A^{-1} = \frac{1}{4} \begin{pmatrix} -1 & 1 & 1 & 2 \\ 1 & 1 & -3 & 0 \\ 1 & -1 & 3 & -2 \\ 1 & -2 & -2 & 0 \end{pmatrix}$$

$$12) A = \begin{pmatrix} 2 & 1 & 0 & 0 \\ 3 & 2 & 0 & 0 \\ 1 & 1 & 3 & 4 \\ 2 & -1 & 2 & 3 \end{pmatrix}$$

$$\begin{array}{cccc|cccc}
 \boxed{2} & 1 & 0 & 0 & 1 & 0 & 0 & 0 \\
 3 & 2 & 0 & 0 & 0 & 1 & 0 & 0 \\
 1 & 1 & 3 & 4 & 0 & 0 & 1 & 0 \\
 2 & -1 & 2 & 3 & 0 & 0 & 0 & 1 \\
 \hline
 2 & 1 & 0 & 0 & 1 & 0 & 0 & 0 \\
 \boxed{1} & 1 & 0 & 0 & -1 & 1 & 0 & 0 \\
 1 & 1 & 3 & 4 & 0 & 0 & 1 & 0 \\
 2 & -1 & 2 & 3 & 0 & 0 & 0 & 1
 \end{array}$$

$$\begin{array}{cccc|cccc}
 1 & 1 & 0 & 0 & -1 & 1 & 0 & 0 \\
 0 & \boxed{-1} & 0 & 0 & 3 & -2 & 0 & 0 \\
 0 & 0 & 3 & 4 & 1 & -1 & 1 & 0 \\
 0 & -3 & 2 & 3 & 2 & -2 & 0 & 1 \\
 \hline
 1 & 0 & 0 & 0 & 2 & -1 & 0 & 0 \\
 0 & -1 & 0 & 0 & 3 & -2 & 0 & 0 \\
 0 & 0 & 3 & 4 & 1 & -1 & 1 & 0 \\
 0 & 0 & \boxed{2} & 3 & -7 & 4 & 0 & 1 \\
 \hline
 1 & 0 & 0 & 0 & 2 & -1 & 0 & 0 \\
 0 & -1 & 0 & 0 & 3 & -2 & 0 & 0 \\
 0 & 0 & \boxed{1} & 1 & 8 & -5 & 1 & -1 \\
 0 & 0 & 2 & 3 & -7 & 4 & 0 & 1 \\
 \hline
 1 & 0 & 0 & 0 & 2 & -1 & 0 & 0 \\
 0 & 1 & 0 & 0 & -3 & 2 & 0 & 0 \\
 0 & 0 & 1 & 1 & 8 & -5 & 1 & -1 \\
 0 & 0 & 0 & \boxed{1} & -23 & 14 & -2 & 3 \\
 \hline
 1 & 0 & 0 & 0 & 2 & -1 & 0 & 0 \\
 0 & 1 & 0 & 0 & -3 & 2 & 0 & 0 \\
 0 & 0 & 1 & 0 & 31 & -19 & 3 & -4 \\
 0 & 0 & 0 & 1 & -23 & 14 & -2 & 3
 \end{array}$$

$$A^{-1} = \begin{pmatrix} 2 & -1 & 0 & 0 \\ -3 & 2 & 0 & 0 \\ 31 & -19 & 3 & -4 \\ -23 & 14 & -2 & 3 \end{pmatrix}$$

$$13) A = \begin{pmatrix} 3 & -2 & 0 & 1 \\ 0 & 2 & 2 & 1 \\ 1 & -2 & -3 & -2 \\ 0 & 1 & 2 & 1 \end{pmatrix}$$

$$\begin{array}{cccc|cccc}
 3 & -2 & 0 & 1 & 1 & 0 & 0 & 0 \\
 0 & 2 & 2 & 1 & 0 & 1 & 0 & 0 \\
 1 & -2 & -3 & -2 & 0 & 0 & 1 & 0 \\
 0 & 1 & 2 & 1 & 0 & 0 & 0 & 1 \\
 \hline
 1 & -2 & -3 & -2 & 0 & 0 & 1 & 0 \\
 0 & \boxed{1} & 2 & 1 & 0 & 0 & 0 & 1 \\
 0 & 4 & 9 & 7 & 1 & 0 & -3 & 0 \\
 0 & 2 & 2 & 1 & 0 & 1 & 0 & 0 \\
 \hline
 1 & 0 & 1 & 0 & 0 & 0 & 1 & 2 \\
 0 & 1 & 2 & 1 & 0 & 0 & 0 & 1 \\
 0 & 0 & \boxed{1} & 3 & 1 & 0 & -3 & -4 \\
 0 & 0 & -2 & -1 & 0 & 1 & 0 & -2 \\
 \hline
 1 & 0 & 0 & -3 & -1 & 0 & 4 & 6 \\
 0 & 1 & 0 & -5 & -2 & 0 & 6 & 9 \\
 0 & 0 & 1 & 3 & 1 & 0 & -3 & -4 \\
 0 & 0 & 0 & 5 & 2 & 1 & -6 & -10 \\
 \hline
 5 & 0 & 0 & 0 & 1 & 3 & 2 & 0 \\
 0 & 1 & 0 & 0 & 0 & 1 & 0 & -1 \\
 0 & 0 & 5 & 0 & -1 & -3 & 3 & 10 \\
 0 & 0 & 0 & 5 & 2 & 1 & -6 & -10
 \end{array}$$

$$\begin{array}{cccc|cccc} 5 & 0 & 0 & 0 & 1 & 3 & 2 & 0 \\ 0 & 5 & 0 & 0 & 0 & 5 & 0 & -5 \\ 0 & 0 & 5 & 0 & -1 & -3 & 3 & 10 \\ 0 & 0 & 0 & 5 & 2 & 1 & -6 & -10 \end{array}$$

$$A^{-1} = \frac{1}{5} \begin{pmatrix} 1 & 3 & 2 & 0 \\ 0 & 5 & 0 & -5 \\ -1 & -3 & 3 & 10 \\ 2 & 1 & -6 & -10 \end{pmatrix}$$

$$1) A = \begin{pmatrix} 1 & 2 & 1 \\ 0 & 0 & 1 \\ 1 & 1 & 2 \end{pmatrix} A^{-1} = \begin{pmatrix} -1 & -3 & 2 \\ 1 & 1 & -1 \\ 0 & 1 & 0 \end{pmatrix}$$

$$2) A = \begin{pmatrix} -1 & 2 & -2 \\ 2 & 1 & 1 \\ 3 & 1 & 2 \end{pmatrix} \\ A^{-1} = \begin{pmatrix} -1 & 6 & -4 \\ 1 & -4 & 3 \\ 1 & -7 & 5 \end{pmatrix}$$

$$3) A = \begin{pmatrix} -2 & 1 & -2 \\ 2 & -2 & 1 \\ 1 & 1 & 2 \end{pmatrix} \\ A^{-1} = \begin{pmatrix} 5 & 4 & 3 \\ 3 & 2 & 2 \\ -4 & -3 & -2 \end{pmatrix}$$

$$4) A = \begin{pmatrix} -2 & 1 & -1 \\ 2 & -2 & 1 \\ 3 & 1 & 2 \end{pmatrix} \\ A^{-1} = \begin{pmatrix} -5 & -3 & -1 \\ -1 & -1 & 0 \\ 8 & 5 & 2 \end{pmatrix}$$

$$5) A = \begin{pmatrix} 2 & 0 & 1 \\ 2 & -1 & 0 \\ 1 & 1 & 2 \end{pmatrix} \\ A^{-1} = \begin{pmatrix} 2 & -1 & -1 \\ 4 & -3 & -2 \\ -3 & 2 & 2 \end{pmatrix}$$

$$6) A = \begin{pmatrix} 1 & 0 & 2 \\ 2 & -5 & 0 \\ 1 & 1 & 3 \end{pmatrix} \\ A^{-1} = \begin{pmatrix} 15 & -2 & -10 \\ 6 & -1 & -4 \\ -7 & 1 & 5 \end{pmatrix}$$

$$7) A = \begin{pmatrix} 1 & 1 & 2 \\ 2 & -5 & 0 \\ 1 & 1 & 3 \end{pmatrix}$$

$$A^{-1} = \frac{1}{7} \begin{pmatrix} 15 & 1 & -10 \\ 6 & -1 & -4 \\ -1 & 0 & 1 \end{pmatrix}$$

$$8) A = \begin{pmatrix} 1 & 1 & 2 \\ 2 & -4 & 2 \\ 1 & 1 & 3 \end{pmatrix}$$

$$A^{-1} = \frac{1}{6} \begin{pmatrix} 14 & 1 & -10 \\ 6 & -1 & -2 \\ -6 & 0 & 6 \end{pmatrix}$$

$$9) A = \begin{pmatrix} 3 & 1 & 2 \\ 1 & 0 & 2 \\ 1 & 1 & 3 \end{pmatrix}$$

$$A^{-1} = \frac{1}{5} \begin{pmatrix} 2 & 1 & -2 \\ 1 & -7 & 4 \\ -1 & 2 & 1 \end{pmatrix}$$

$$10) A = \begin{pmatrix} 3 & 1 & -2 \\ 1 & 0 & 2 \\ 5 & 1 & 3 \end{pmatrix}$$

$$A^{-1} = \begin{pmatrix} 2 & 5 & -2 \\ -7 & -19 & 8 \\ -1 & -2 & 1 \end{pmatrix}$$

$$11) A = \begin{pmatrix} 1 & 1 & -2 \\ 2 & -2 & 1 \\ -6 & 1 & 4 \end{pmatrix}$$

$$A^{-1} = \frac{1}{3} \begin{pmatrix} 9 & 6 & 3 \\ 14 & 8 & 5 \\ 10 & 7 & 4 \end{pmatrix}$$

$$12) A = \begin{pmatrix} -1 & 1 & 1 \\ 3 & 0 & 1 \\ -6 & 1 & 0 \end{pmatrix}$$

$$A^{-1} = \frac{1}{2} \begin{pmatrix} 1 & -1 & -1 \\ 6 & -6 & -4 \\ -3 & 5 & 3 \end{pmatrix}$$

$$13) A = \begin{pmatrix} 1 & -1 & 1 \\ 3 & 4 & 1 \\ 1 & 1 & 1 \end{pmatrix}$$

$$A^{-1} = \frac{1}{4} \begin{pmatrix} 3 & 2 & -5 \\ -2 & 0 & 2 \\ -1 & -2 & 7 \end{pmatrix}$$