

Inverse of Square Matrix ... Set 1

The Inverse of a Square Matrix

For each matrix state if an inverse exists.

$$1) \begin{bmatrix} -12 & -11 \\ 12 & 11 \end{bmatrix}$$

$$2) \begin{bmatrix} 0 & -2 \\ -5 & 8 \end{bmatrix}$$

$$3) \begin{bmatrix} 7 & 9 \\ 3 & -4 \end{bmatrix}$$

$$4) \begin{bmatrix} -4 & -4 \\ -5 & -5 \end{bmatrix}$$

$$5) \begin{bmatrix} -2 & -2 \\ 7 & 2 \end{bmatrix}$$

$$6) \begin{bmatrix} -2 & -6 \\ -9 & 0 \end{bmatrix}$$

Find the inverse of each 2x2 matrix. Keep the determinant factored out.

$$7) \begin{bmatrix} -8 & 10 \\ -4 & 4 \end{bmatrix}$$

$$8) \begin{bmatrix} 0 & -3 \\ 5 & 4 \end{bmatrix}$$

$$9) \begin{bmatrix} 0 & -2 \\ 3 & -8 \end{bmatrix}$$

$$10) \begin{bmatrix} -5 & 3 \\ -2 & 2 \end{bmatrix}$$

$$11) \begin{bmatrix} 7 & 1 \\ 7 & 2 \end{bmatrix}$$

$$12) \begin{bmatrix} -3 & -2 \\ -7 & 2 \end{bmatrix}$$

Find the inverse of each 2x2 matrix.

$$13) \begin{bmatrix} -7 & 1 \\ 6 & -1 \end{bmatrix}$$

$$14) \begin{bmatrix} -2 & 1 \\ -2 & 0 \end{bmatrix}$$

$$15) \begin{bmatrix} -1 & -11 \\ 0 & 1 \end{bmatrix}$$

$$16) \begin{bmatrix} 1 & -2 \\ -1 & 3 \end{bmatrix}$$

$$17) \begin{bmatrix} 5 & -6 \\ 3 & -3 \end{bmatrix}$$

$$18) \begin{bmatrix} -4 & 7 \\ 1 & -2 \end{bmatrix}$$

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Find the inverse of each 3x3 matrix. Keep the determinant factored out.

$$19) \begin{bmatrix} -5 & 4 & -5 \\ 1 & 1 & 3 \\ -2 & 5 & 2 \end{bmatrix}$$

$$20) \begin{bmatrix} -1 & -2 & -1 \\ -1 & -4 & -2 \\ -4 & -1 & 1 \end{bmatrix}$$

$$21) \begin{bmatrix} 0 & 0 & -5 \\ 1 & 0 & 5 \\ 0 & -2 & -4 \end{bmatrix}$$

$$22) \begin{bmatrix} -5 & -2 & 1 \\ -4 & 3 & 2 \\ 2 & -3 & -1 \end{bmatrix}$$

$$23) \begin{bmatrix} 4 & 2 & 6 \\ 4 & -3 & 3 \\ -1 & -4 & -4 \end{bmatrix}$$

$$24) \begin{bmatrix} 3 & 1 & 2 \\ 6 & 5 & 6 \\ 3 & 6 & 5 \end{bmatrix}$$

Find the inverse of each 3x3 matrix.

$$25) \begin{bmatrix} -6 & 3 & -4 \\ -1 & 5 & 4 \\ 5 & 0 & 6 \end{bmatrix}$$

$$26) \begin{bmatrix} -5 & -6 & 5 \\ 7 & 2 & 4 \\ 2 & 3 & -3 \end{bmatrix}$$

$$27) \begin{bmatrix} 2 & -3 & -6 \\ -3 & 0 & 6 \\ 1 & -3 & -6 \end{bmatrix}$$

$$28) \begin{bmatrix} 0 & -3 & -2 \\ 0 & 2 & 1 \\ 3 & -3 & -5 \end{bmatrix}$$

$$29) \begin{bmatrix} -1 & 3 & 2 \\ 4 & -6 & -6 \\ 5 & -2 & -6 \end{bmatrix}$$

$$30) \begin{bmatrix} 5 & 6 & -4 \\ -4 & -4 & 1 \\ 0 & 1 & -3 \end{bmatrix}$$