

Determinants of  $2 \times 2$  Matrices**Evaluate the determinant of each matrix.**

1)  $\begin{bmatrix} 0 & -4 \\ -6 & -2 \end{bmatrix}$

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

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

4)  $\begin{bmatrix} 0 & 4 \\ 6 & 5 \end{bmatrix}$

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

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

**Evaluate each determinant.**

7)  $\begin{vmatrix} -5 & 3 \\ 4 & 2 \end{vmatrix}$

8)  $\begin{vmatrix} -9 & -9 \\ -7 & -10 \end{vmatrix}$

9)  $\begin{vmatrix} -1 & 8 \\ 5 & 0 \end{vmatrix}$

10)  $\begin{vmatrix} 8 & -6 \\ -10 & 9 \end{vmatrix}$

11)  $\begin{vmatrix} 0 & 6 \\ -8 & 0 \end{vmatrix}$

12)  $\begin{vmatrix} 10 & -9 \\ -7 & 3 \end{vmatrix}$

13)  $\begin{vmatrix} -5 & 0 \\ 2 & 10 \end{vmatrix}$

14)  $\begin{vmatrix} 2 & -2 \\ 7 & -7 \end{vmatrix}$

15) Evaluate:

$$\begin{vmatrix} 1 & 2 \\ 3 & 4 \end{vmatrix} + \begin{vmatrix} 5 & 2 \\ -2 & 6 \end{vmatrix}$$

16) Give an example of a  $2 \times 2$  matrix whose determinant is 13.

Determinants of  $2 \times 2$  Matrices**Evaluate the determinant of each matrix.**

$$1) \begin{bmatrix} 0 & -4 \\ -6 & -2 \end{bmatrix}$$

**-24**

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

**36**

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

**-3**

$$4) \begin{bmatrix} 0 & 4 \\ 6 & 5 \end{bmatrix}$$

**-24**

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

**6**

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

**12**

**Evaluate each determinant.**

$$7) \begin{vmatrix} -5 & 3 \\ 4 & 2 \end{vmatrix}$$

**-22**

$$8) \begin{vmatrix} -9 & -9 \\ -7 & -10 \end{vmatrix}$$

**27**

$$9) \begin{vmatrix} -1 & 8 \\ 5 & 0 \end{vmatrix}$$

**-40**

$$10) \begin{vmatrix} 8 & -6 \\ -10 & 9 \end{vmatrix}$$

**12**

$$11) \begin{vmatrix} 0 & 6 \\ -8 & 0 \end{vmatrix}$$

**48**

$$12) \begin{vmatrix} 10 & -9 \\ -7 & 3 \end{vmatrix}$$

**-33**

$$13) \begin{vmatrix} -5 & 0 \\ 2 & 10 \end{vmatrix}$$

**-50**

$$14) \begin{vmatrix} 2 & -2 \\ 7 & -7 \end{vmatrix}$$

**0**

15) Evaluate:

$$\begin{vmatrix} 1 & 2 \\ 3 & 4 \end{vmatrix} + \begin{vmatrix} 5 & 2 \\ -2 & 6 \end{vmatrix}$$

**32**

16) Give an example of a  $2 \times 2$  matrix whose determinant is 13.

Many answers. Ex:  $\begin{bmatrix} 4 & 7 \\ 1 & 5 \end{bmatrix}$