

Determinants

Name \_\_\_\_\_

Evaluate the determinant of the matrix.

1.  $\begin{bmatrix} -4 & 2 \\ 8 & 0 \end{bmatrix}$

2.  $\begin{bmatrix} 1 & 4 \\ 5 & 1 \end{bmatrix}$

3.  $\begin{bmatrix} -6 & 5 \\ 8 & 10 \end{bmatrix}$

4.  $\begin{bmatrix} 5 & 9 \\ 8 & 1 \end{bmatrix}$

5.  $\begin{bmatrix} 7 & -7 \\ 11 & 4 \end{bmatrix}$

6.  $\begin{bmatrix} 1 & 3 \\ -2 & -6 \end{bmatrix}$

7.  $\begin{bmatrix} 4 & 6 \\ 9 & 11 \end{bmatrix}$

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

Evaluate the determinant of the matrix by using diagonals.

9.  $\begin{bmatrix} 3 & 2 & -5 \\ 6 & 0 & -1 \\ 0 & -1 & 3 \end{bmatrix}$

10.  $\begin{bmatrix} -1 & 2 & 7 \\ 2 & -1 & -1 \\ 3 & 5 & 2 \end{bmatrix}$

11.  $\begin{bmatrix} 1 & 2 & 1 \\ 6 & 5 & 0 \\ 1 & 4 & -2 \end{bmatrix}$

12.  $\begin{bmatrix} 3 & 12 & 1 \\ -10 & 9 & 8 \\ -5 & 4 & -1 \end{bmatrix}$

Evaluate the determinant of the matrix ~~using expansion by minors~~. by using diagonals.

13.  $\begin{bmatrix} -4 & 0 & 1 \\ 0 & 8 & 9 \\ 0 & 3 & 7 \end{bmatrix}$

14.  $\begin{bmatrix} 4 & 6 & -3 \\ 0 & 1 & 1 \\ 3 & 9 & 11 \end{bmatrix}$

15.  $\begin{bmatrix} 5 & -3 & 2 \\ 1 & 6 & -3 \\ -2 & 1 & 4 \end{bmatrix}$

16.  $\begin{bmatrix} 8 & 0 & 0 \\ 3 & 2 & 0 \\ 6 & 4 & 2 \end{bmatrix}$

Solve for x.

17.  $\begin{vmatrix} 2 & 6 \\ 1 & x \end{vmatrix} = 2$

18.  $\begin{vmatrix} x & 3 \\ -4 & x \end{vmatrix} = 7x$

19.  $\begin{vmatrix} x & 3 & -1 \\ 2 & 1 & -2 \\ 4 & 1 & x \end{vmatrix} = 10$

20.  $\begin{vmatrix} 2x & 0 & 3 \\ 7 & 5 & -1 \\ 4 & 2 & x \end{vmatrix} = 8x^2 - 3x + 12$