

[08-10-22-T11]
3 by 3 Determinant

■ Find the determinants of the following matrices without using a calculator except possibly for arithmetic.

1] $\text{Det} \begin{pmatrix} 1 & 3 & 5 \\ 2 & 1 & 1 \\ 3 & 4 & 2 \end{pmatrix}$

2] $\text{Det} \begin{pmatrix} 2 & 3 & -4 \\ 4 & 0 & 5 \\ 5 & 1 & 6 \end{pmatrix}$

3 $\text{Det} \begin{pmatrix} 1 & 5 & 0 \\ 2 & 4 & -1 \\ 0 & -2 & 0 \end{pmatrix}$

4 $\text{Det} \begin{pmatrix} 3 & 0 & 4 \\ 2 & 3 & 2 \\ 0 & 5 & -1 \end{pmatrix}$

5 $\text{Det} \begin{pmatrix} 0 & 5 & 1 \\ 4 & -3 & 0 \\ 2 & 4 & 1 \end{pmatrix}$

6 $\text{Det} \begin{pmatrix} 0 & 3 & 8 \\ 2 & 3 & 1 \\ 0 & 8 & 12 \end{pmatrix}$

■ Find the determinants of the following matrices using a calculator.

7 $\text{Det} \begin{pmatrix} 3 & -8 & 12 \\ 15 & 21 & 3 \\ -5 & -8 & 7 \end{pmatrix}$

8 $\text{Det} \begin{pmatrix} -3 & 5 & -8 \\ -12 & 48 & 51 \\ 6 & 8 & -11 \end{pmatrix}$

$$9 \quad \text{Det} \begin{pmatrix} 0 & 8 & 5 \\ 8 & 7 & -12 \\ 9 & -7 & -3 \end{pmatrix}$$

Answers

$$1 \quad 20$$

$$2 \quad -23$$

$$3 \quad -2$$

$$4 \quad 1$$

$$5 \quad 2$$

$$6 \quad 56$$

■ Find the determinants of the following matrices using a calculator.

$$7 \quad 1293$$

$$8 \quad 6750$$

$$9 \quad -1267$$