1. The solution of the system $x + y - 3z = -6$, $-7y + 7z = 7$, $3z = 9$ is

   (A) $x = 1, y = 2, z = 3$ (B) $x = -1, y = 2, z = 3$

   (C) $x = -1, y = -2, z = 3$ (D) $x = 1, y = -2, z = 3$

2. Transpose of a column matrix is

   (A) unit matrix   (B) diagonal matrix

   (C) column matrix   (D) row matrix

3. If $(x - 6)$ is the HCF of $x^2 - 2x - 24$ and $x^2 - kx - 6$ then the value of k is

   (A) 3   (B) 5   (C) 6   (D) 8

4. Find the matrix X if $2X + \begin{pmatrix} 1 & 3 \\ 5 & 7 \end{pmatrix} = \begin{pmatrix} 5 & 7 \\ 9 & 5 \end{pmatrix}$

   (A) $\begin{pmatrix} -2 & -2 \\ 2 & -1 \end{pmatrix}$ (B) $\begin{pmatrix} 2 & 2 \\ 2 & -1 \end{pmatrix}$ (C) $\begin{pmatrix} 1 & 2 \\ 2 & 2 \end{pmatrix}$ (D) $\begin{pmatrix} 2 & 1 \\ 2 & 2 \end{pmatrix}$

5. The square root of $\dfrac{256x^8 y^4 z^{10}}{25x^6 y^6 z^6}$ is equal to

   (A) $\dfrac{16}{5}\left|\dfrac{x^2 z^4}{y^2}\right|$ (B) $16\left|\dfrac{y^2}{x^2 z^4}\right|$ (C) $\dfrac{16}{5}\left|\dfrac{y}{xz^2}\right|$ (D) $\dfrac{16}{5}\left|\dfrac{xz^2}{y}\right|$

6. The number of points of intersection of the quadratic polynomial $x^2 + 4x + 4$ with the X axis is

   (A) 0   (B) 1   (C) 0 or 1   (D) 2

7 $y^2 + \dfrac{1}{y^2}$ is not equal to

(A) $\dfrac{y^4 + 1}{y^2}$ (B) $\left(y + \dfrac{1}{y}\right)^2$ (C) $\left(y - \dfrac{1}{y}\right)^2 + 2$ (D) $\left(y + \dfrac{1}{y}\right)^2 - 2$

8 A system of three linear equations in three variables is inconsistent if their planes

(A) intersect only at a point   (B) intersect in a line

(C) coincides with each other   (D) do not intersect

9 For the given matrix $A = \begin{pmatrix} 1 & 3 & 5 & 7 \\ 2 & 4 & 6 & 8 \\ 9 & 11 & 13 & 15 \end{pmatrix}$ the order of the matrix A^T is

(A) 2×3 (B) 3×2 (C) 3×4 (D) 4×3

10 The values of a and b if $4x^4 - 24x^3 + 76x^2 + ax + b$ is a perfect square are

(A) $100, 120$ (B) $10, 12$ (C) $-120, 100$ (D) $12, 10$