

The Punjab School-DRC
Class 9th
Math- Vacation Engaging Task

1. Define the following terms:

- a) Diagonal matrix
- b) Equal matrix
- c) Unit matrix
- d) Symmetric matrix
- e) Collinear point
- f) Different types of triangle
- g) Mid-point formula
- h) Distance formula
- i) Rational numbers
- j) Transitive property of real number
- k) Reflex property of real number
- l) Commutative and associative property of number.
- m) Plane geometry
- n) Coordinate geometry
- o) Singular matrix

2. If

$$A = \begin{bmatrix} 4 & 0 \\ -1 & 2 \end{bmatrix}, B = \begin{bmatrix} -4 & -2 \\ 1 & -1 \end{bmatrix}$$

Then $(AB)^{-1} = B^{-1}A^{-1}$

3. If

$$A = \begin{bmatrix} 1 & 2 \\ 4 & 6 \end{bmatrix}$$

Then find A^{-1}

4. If

$$A = \begin{bmatrix} 2 & 1 \\ 0 & -1 \end{bmatrix}, B = \begin{bmatrix} 1 & 3 \\ -2 & 0 \end{bmatrix}$$

Then verify $(AB)^t = A^t B^t$

5. Find value of a & b if

$$\begin{bmatrix} a+3 & 4 \\ 6 & b- \end{bmatrix} = \begin{bmatrix} -3 & 4 \\ 6 & 2 \end{bmatrix}$$

6. Find x, y using Matrix inversion and Cramer Rule:

$$4x + 2y = 8$$

$$3x - y = -1$$

7. Express in p/q form (i) 0.67

8. Simplify

$$\sqrt{\frac{(216)^{2/3} \times (25)^{1/2}}{(0.04)^{-3/2}}}$$

9. Simplify

$$\left[\frac{32x^{-6}y^{-4}Z}{625x^4yz^{-4}} \right]^{\frac{2}{5}}$$