

Matrices and Determinants - Class XII

Related Questions with Solutions

Questions

Question: 01

If $A(\theta) = \begin{pmatrix} 1 & \tan \theta \\ -\tan \theta & 1 \end{pmatrix}$ and $AB = 1$ then $(\sec^2 \theta) B$ is equal to

- A. $A(\theta)$
- B. $A(-\theta)$
- C. $A(\theta/2)$
- D. $A(-\theta/2)$

Solutions

Solution: 01

As $AB = 1$, we get $B = A^{-1}$

$$\therefore B = \frac{1}{1 + \tan^2 \theta} \begin{pmatrix} 1 & -\tan \theta \\ \tan \theta & 1 \end{pmatrix}$$
$$\Rightarrow (\sec^2 \theta) B = \begin{pmatrix} 1 & -\tan \theta \\ \tan \theta & 1 \end{pmatrix} = A(-\theta)$$

Correct Options

Answer:01

Correct Options: B