morning glory 🏶

| #(| |
|----------------|--|
| # Rotation | Operators. using radian (0). |
| | · T(Pr)=T(1,0)=(cos0, sind |
| | (-5inb, (050) (0,1). T(P2) = T(0,1) = (-5inb, Cosb |
| | (1,0). |
| | · A=[T(e,) T(e2)] |
| | $= \begin{bmatrix} \cos \theta & -\sin \theta \\ \sin \theta & \cos \theta \end{bmatrix}$ |
| | Lsin b cos 0 - |
| & ₹₹ & | $Rev_{6} X = \begin{bmatrix} \frac{\sqrt{3}}{2} & -\frac{1}{2} \\ \frac{1}{2} & \frac{\sqrt{3}}{2} \end{bmatrix} \begin{bmatrix} 1 \\ 1 \end{bmatrix}.$ |
| ±1 Composition | s of Matrix Transformations. |
| | · Compositions of Functions. |
| | f(g(x1) {f.g)(x). |
| | · Compositions of Markix Transfermentions. |
| | 2d /sd |
| | TA(TB(X)) = (TAOTB)(X) = TAB |
| | |
| | $T_A: \mathbb{R}^k \to \mathbb{R}^m$ \Rightarrow $(T_A \circ T_B): \mathbb{R}^n \to \mathbb{R}^m$. |
| | (B, li,) li |
| *Ex 1 | t, (x, y, z) = (x+28, x+28-4). |
| | $T_{1}(x,y,z)=(x+2y,x+2z-y).$ $T_{2}(x,y)=(3x+y,x,x-2y).$ $A_{1}A_{2}=\begin{bmatrix}1&2&0&1\\1&-1&2&\end{bmatrix}\begin{bmatrix}3&1&1\\1&2&\end{bmatrix}.$ |
| | 7. |
| | √ . |
| | $T_1(e_1) = (1, 1), T_1(e_2) = (2, -1), T_1(e_3) = (0, 2).$ |
| | ⇒ A. = [/ -1 2] |
| | $\Rightarrow A_{1} = \begin{bmatrix} 1 & 2 & 0 \\ 1 & -1 & 2 \end{bmatrix}$ $T_{2}(e_{1}) = (3, 1, 1)$ $A_{2} = \begin{bmatrix} 3 & 1 \\ 1 & 2 \end{bmatrix}$ $T_{3}(e_{2}) = (1, 0, 2)$ $\Rightarrow A_{2} = \begin{bmatrix} 3 & 1 \\ 1 & 2 \end{bmatrix}$ morning glory \oplus |
| | $\Rightarrow Aa=\begin{bmatrix} 3 & 1 & 7 \\ 1 & 6 & 7 \end{bmatrix}$ |
| | morning glory 😭 |

| * Ex 2. | TA: $\mathbb{R}^{2} \to \mathbb{R}^{2}$, reflection about $\Psi = X$. TB: $\mathbb{R}^{2} \to \mathbb{R}^{2}$, outhoround projection about Ψ -axis. |
|---------|--|
| | 1 (B) P 71 , Olahogonan prosection. about 4-axis. |
| | (0,2) $(0,2)$ $(0,2$ |
| | (Ire) |
| | |
| | Composition is not commutative. |
| | |
| * Ex 3 | $A_1 = \begin{bmatrix} \cos\theta_1 & -\sin\theta_1 \\ \sin\theta_2 & \cos\theta_2 \end{bmatrix} \qquad A_2 = \begin{bmatrix} \cos\theta_2 & -\sin\theta_2 \\ \sin\theta_2 & \cos\theta_2 \end{bmatrix}.$ |
| | $A_1A_2 = \begin{bmatrix} \cos\theta_1 - \sin\theta_1 \\ \sin\theta_1 \cos\theta_2 \end{bmatrix} \begin{bmatrix} \cos\theta_2 - \sin\theta_2 \\ \sin\theta_1 \cos\theta_2 \end{bmatrix} \begin{bmatrix} \cos\theta_2 - \sin\theta_2 \\ \sin\theta_2 \cos\theta_2 \end{bmatrix}.$ B. |
| | V II |
| | $A_{2}A_{1} = \begin{bmatrix} \cos \theta_{2} & -\sin \theta_{1} \\ \sin \theta_{2} & \cos \theta_{2} \end{bmatrix} \begin{bmatrix} \cos \theta_{1} & -\sin \theta_{1} \\ \sin \theta_{1} & \cos \theta_{2} \end{bmatrix} \begin{bmatrix} \cos \theta_{1} & \cos \theta_{2} \\ \sin \theta_{2} & \cos \theta_{2} \end{bmatrix}$ |
| | : Composition of Ratations is communicative. |
| | (正主 十分) |
| | |
| x Ex 4. | · Reflection about - 4. 4 => about origin. |
| | - Z. |
| | |
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| <u> </u> | | NO.24.04.04. |
|-----------|---|---------------|
| # T. 14 | ality A Matin Company | |
| 4 Lawrite | ility of Matrix Operations. | |
| | (Definition) | |
| 1 | $T_A: \mathbb{R}^n \to \mathbb{R}^n$ | |
| | · [A] = TA-1 (TA의 의연산 = A-1이 配행할 변환). | |
| | ·TA·TA- = TA-TA=TI | |
| | TA " TA - I = TA - I = TI. TA - TA - I = TAA - I = TI. | |
| | | |
| * Ex6 | $T: \mathbb{R}^2 \to \mathbb{R}^n$ | |
| | | |
| | $A = \begin{bmatrix} \cos \theta & -\sin \theta & 7 \\ -\sin \theta & \cos \theta \end{bmatrix} A = \begin{bmatrix} \cos \theta & \sin \theta \\ -\sin \theta & \cos \theta \end{bmatrix}$ | TA-1, Re |
| | (os (-0) -sin(-0)] | |
| | $= \begin{bmatrix} \cos(-\theta) - \sin(-\theta) \\ \sin(-\theta) & \cos(-\theta) \end{bmatrix}.$ | · TA-1 , R-0. |
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