



If $A = \begin{bmatrix} 5a & -b \\ 3 & 2 \end{bmatrix}$ and $A \operatorname{adj}(A) = AA^T$, then $5a + b$ is equal to :

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$$A \operatorname{adj}(A) = AA^T$$

$$AB = AC$$

$$\operatorname{adj}(A) = A^T$$

$$\Rightarrow B = C$$

$$\Rightarrow \begin{bmatrix} 2 & b \\ -3 & 5a \end{bmatrix} = \begin{bmatrix} 5a & 3 \\ -b & 2 \end{bmatrix}$$

$$5a = 2 ; b = 3$$

$$\Rightarrow 5a + b = 5$$