Let

$$A = \begin{bmatrix} 1 & -2 & 7 \\ -2 & 4 & -9 \\ -1 & 2 & -5 \end{bmatrix}.$$

Find the Jordan canonical form of A, where the blocks are ordered increasingly by eigenvalue and then by block size.

$$J = \begin{bmatrix} \square & \square & \square \\ \square & \square & \square \\ \square & \square & \square \end{bmatrix}.$$

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$$A = \begin{bmatrix} 1 & -2 & 7 \\ -2 & 4 & -9 \\ -1 & 2 & -5 \end{bmatrix}.$$

Find the Jordan canonical form of A, where the blocks are ordered increasingly by eigenvalue and then by block size.

$$J = \begin{bmatrix} \boxed{0} & \boxed{1} & \boxed{0} \\ \boxed{0} & \boxed{0} & \boxed{1} \\ \boxed{0} & \boxed{0} & \boxed{0} \end{bmatrix}.$$