ANSWER KEY + SOLUTIONS

Part A (12 points): Record answers on the bubble sheet in your answer booklet.

Answers or work indicated anywhere else on your exam will not be eligible for marking.
Fill in the rectangle corresponding to your answer fully, using a dark pen or pencil.

1. [1 pt.] True or False: If v_1 and v_2 are linearly independent eigenvectors, then they correspond to different eigenvalues.

(A) True (B) False (C) Not enough information to determine

2. [1 pt.] True or False: If $\vec{v}$ is an eigenvector of a matrix A with eigenvalue 3, then $-\vec{v}$ is an eigenvector of A with eigenvalue -3.

(A) True (B) False (C) Not enough information to determine

3. [1 pt.] True or False: If $\mathbb{R}^n$ has a basis consisting of eigenvectors of A, then A is