

Name: Answer sheet

TA Name and section: _____

(1 point for recognizability and 1 point for spelling)

NO CALCULATORS. KEEP IT OFF YOUR DESK. All questions are true-false questions. The scoring is as follows: Wrong answer, 0 points; No answer, 1 point; Correct answer, 2 points; Correct answer with correct reason, 3 points. If you can't answer something in less than a minute, move on. Use very very short, trivial, nearly frivolous (but true) reasons. Say anything true.

(1) A system of 4 equations in 3 unknowns is always inconsistent.

T F try 0's

(2) If A is any invertible $n \times n$ matrix then $\text{rref}(A) = I_n$.

T F both rank = n

(3) The image of a 3×4 matrix is a subspace of \mathbb{R}^4 .

T F in \mathbb{R}^3

(4) There is a 3×4 matrix of rank 4.

T F Max 3

(5) The formula $(A^2)^{-1} = (A^{-1})^2$ holds for all invertible matrices A .

T F $(AB)^{-1} = B^{-1}A^{-1}$

(6) The span of the vectors $\vec{v}_1, \vec{v}_2, \dots, \vec{v}_n$ consists of all linear combinations of $\vec{v}_1, \vec{v}_2, \dots, \vec{v}_n$.

T F Definition

(7) There exists a system of 3 linear equations in 3 unknowns with exactly 3 solutions.

T F none or one or ∞