

Quiz 5

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1. Compute the determinants of the following matrices. Take a few moments to decide what is the easiest way to compute the determinant.

(a) $A = \begin{bmatrix} 1 & 3 & -2 & 4 \\ 0 & 0 & 2 & 0 \\ 0 & 3 & 2 & -1 \\ 0 & 4 & 3 & -2 \end{bmatrix}$

(b) $B = \begin{bmatrix} 1 & 2 & -2 & 2 \\ 2 & 4 & -4 & 4 \\ 3 & 4 & 5 & -2 \\ 2 & 2 & -1 & 3 \end{bmatrix}$

(c) $C = \begin{bmatrix} 2 & 3 & -5 \\ 2 & -2 & 1 \\ 0 & -3 & 2 \end{bmatrix}$

2. Circle all that apply.

The rank of an $m \times n$ matrix is equivalent to:

- (a) The dimension of the column space.
- (b) n minus the dimension of the row space.
- (c) The dimension of the row space.
- (d) n minus the dimension of the null space.