Quiz 7 (11am)

Find the determinant of A and use it to answer the questions below. (4 pts. each)

$$A = \begin{bmatrix} 3 & -1 & 3 \\ 2 & 0 & -2 \\ 5 & 2 & 4 \end{bmatrix}$$

1. Find the determinant of A. (10 pts.)

2. Are the columns of A linearly independent? (2 pts.)

3. How many solutions does $Ax = b$ have for any b in $\mathbb{R}^3$ (one, none, or infinitely many)? (2 pts.)

4. What is the column space of A? (2 pts.)

5. What is the determinant of A^{-1}? (2 pts.)

6. If $AB = 3I$, then what is the determinant of B? (2 pts.)