

MAT 1341 C, Quiz 3

March 11, 2019

Length: 15 minutes.

Professor: Rachid Bentoumi.

Family name:_____

First name:_____

Student number:_____

1	
2	
3	
Total	

PLEASE CAREFULLY READ THESE INSTRUCTIONS:

1. Carefully read each question and **record your responses in the space provided on this page as well as the question page.**
2. You are not allowed to consult your notes or any books. Calculators, phones, and other electronic devices are not allowed.
3. There are three multiple choice questions, each worth 1 point. No partial credit will be awarded. **You must indicate the method you used to select the correct answer; unjustified answers will not be given credit.**

Record your answers both on the question page and on the title page.

1. If A is an $n \times 2$ matrix and $B = \begin{bmatrix} 1 & 1 \\ 1 & 0 \end{bmatrix}$, then the second column of the matrix AB is

- A. only defined if $n = 2$.
- B. the same as the second column of A .
- C. the same as the second column of B .
- D. the same as the first column of A .
- E. the same as the first column of B .
- F. the sum of the first and second columns of A .

2. If $A = \begin{bmatrix} 1 & 1 & 1 \\ 0 & 2 & 3 \\ 5 & 5 & 1 \end{bmatrix}$, what is the second row of A^{-1} ?

A. $(-\frac{15}{8}, \frac{1}{2}, \frac{3}{8})$

B. $(-\frac{15}{4}, 1, \frac{3}{4})$

C. $(\frac{13}{8}, -\frac{1}{2}, -\frac{1}{8})$

D. $(-\frac{1}{2}, \frac{1}{2}, 0)$

E. $(-\frac{15}{8}, \frac{1}{8}, \frac{3}{8})$

F. $(-15, 4, 3)$

3. Consider the following matrix

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

Which of the following is a basis for $\ker(A)$?

A. $\{(1, 0, 0), (0, 1, 0)\}$

B. $\{(1, 2, 0)\}$

C. $\{(-1, 1, 0)\}$

D. $\{(-1, 2, 2), (2, -4, 2)\}$

E. $\{(2, 1, 0)\}$

F. $\{(1, 0, 0), (0, 1, 0), (0, 0, 1)\}$