

Name:

1. Consider the following matrix.

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

(a) Find a basis for $RS(A)$.

(b) Find a basis for $NS(A)$.

(c) Find $rk(A)$.

2. Let $f_1 = x^2 - x - 2$, $f_2 = x - 2$, and $f_3 = 2x^2 - 8x + 8$. Find a basis for $\text{Span}\{f_1, f_2, f_3\}$.