

Name: \_\_\_\_\_

- Put your name in the “ \_\_\_\_\_ ” above.
- Write your answers down neatly, use complete sentences, and *justify your work*.
- Good luck!

1. Let  $b \in \mathbb{R}$  and

$$S = \left\{ \begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix}, \begin{bmatrix} 2 \\ b+7 \\ b^2+b \end{bmatrix} \right\}.$$

For which value(s) of  $b$  is  $S$  a linearly dependent subset  $\mathbb{R}^3$ ?