

## Handwritten HW 18

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16. Find  $A$  such that the given set is  $\text{Col}A$ .

$$\left\{ \begin{bmatrix} b - c \\ 2b + c + d \\ 5c - 4d \\ d \end{bmatrix} : b, c, d \text{ real} \right\}$$

*Solution:*

24. Let  $A = \begin{bmatrix} -8 & -2 & -9 \\ 6 & 4 & 8 \\ 4 & 0 & 4 \end{bmatrix}$  and  $\mathbf{w} = \begin{bmatrix} 2 \\ 1 \\ -2 \end{bmatrix}$ . Determine if  $\mathbf{w}$  is in  $\text{Col}A$ .  
Is  $\mathbf{w}$  in  $\text{Nul}A$ ?

*Solution:*