

Math 1553, Quiz 3 (2.1–2.2), Fall 2026, Version B

Name	<i>Key</i>	GT ID		Section	
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For questions with bubbles, either fill in the bubble completely or leave it blank. **Do not** mark any bubble with “X” or “/” or any such intermediate marking. Anything other than a blank or filled bubble will be given a score of zero.

1. (1 point) If $v = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}$ is the zero vector in $\mathbb{R}^3$, then $\text{Span}\{v\}$ contains exactly one vector.

☒ TRUE ☐ FALSE

2. (1 point) Which vector is $3v - w$ where $v = \begin{pmatrix} 3 \\ -2 \\ 0 \end{pmatrix}$ and $w = \begin{pmatrix} 2 \\ -1 \\ 0 \end{pmatrix}$?

☐ $\begin{pmatrix} 11 \\ -7 \\ 0 \end{pmatrix}$
 ☐ $\begin{pmatrix} -7 \\ 5 \\ 0 \end{pmatrix}$
 ☐ $\begin{pmatrix} 7 \\ -7 \\ 0 \end{pmatrix}$
 ☐ $\begin{pmatrix} 7 \\ -5 \\ 0 \end{pmatrix}$
 ☒ $\begin{pmatrix} 7 \\ -5 \\ 0 \end{pmatrix}$
☐ $\begin{pmatrix} 7 \\ -3 \\ 0 \end{pmatrix}$
 ☐ $\begin{pmatrix} 1 \\ -1 \\ 0 \end{pmatrix}$
 ☐ $\begin{pmatrix} 7 \\ 5 \\ 0 \end{pmatrix}$
 ☐ $\begin{pmatrix} 9 & -2 \\ -6 & 1 \\ 0 & 0 \end{pmatrix}$
☐ none of these

3. (1 point) How many vectors are in $\text{Span}\left\{\begin{pmatrix} 1 \\ 1 \\ 1 \end{pmatrix}\right\}$?

☐ zero ☐ one ☒ infinitely many