

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

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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 is a nonzero vector in $\mathbb{R}^3$ then $\text{Span}\{v\}$ contains infinitely many vectors.
☐ TRUE ☐ FALSE

2. (1 point) Which vector is $2v - 3w$ where $v = \begin{pmatrix} 1 \\ 3 \\ 0 \end{pmatrix}$ and $w = \begin{pmatrix} 1 \\ 1 \\ 0 \end{pmatrix}$?
- ☐ $\begin{pmatrix} 5 \\ 9 \\ 0 \end{pmatrix}$
 ☐ $\begin{pmatrix} 1 \\ -3 \\ 0 \end{pmatrix}$
 ☐ $\begin{pmatrix} -1 \\ 3 \\ 0 \end{pmatrix}$
 ☐ $\begin{pmatrix} -1 \\ 9 \\ 0 \end{pmatrix}$
 ☐ $\begin{pmatrix} 1 \\ 5 \\ 0 \end{pmatrix}$
- ☐ $\begin{pmatrix} -1 \\ 3 \end{pmatrix}$
 ☐ $\begin{pmatrix} -2 \\ 3 \\ 0 \end{pmatrix}$
 ☐ $\begin{pmatrix} 2 & -3 \\ 6 & -3 \\ 0 & 0 \end{pmatrix}$
 ☐ none of these

3. (1 point) How many vectors are in $\text{Span} \left\{ \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix} \right\}$?
- ☐ zero
 ☐ one
 ☐ infinitely many