Practice worksheet | Vectors in three dimensions

Row operations and geometric interpretation of solution sets

Name: _____ Date: _____

6 questions | 12 marks

1. Apply $R_2 \leftarrow R_2 - 3R_1$ to $[1, 2, -1 \mid 4]$ and $[3, 7, -2 \mid 13]$. [2 marks]

2. Interpret rows $[1, 0, 0 \mid 2]$, $[0, 1, 0 \mid -1]$, $[0, 0, 1 \mid 3]$. [2 marks]

3. Interpret rows $[1, 2, 0 \mid 5]$, $[0, 0, 1 \mid 1]$, $[0, 0, 0 \mid 0]$. [2 marks]

4. Interpret a consistent three-variable system with one pivot. [2 marks]

5. Is multiplying a row by zero an equivalence operation? [2 marks]

6. Check $(2, 1, 0)$ in $x + y + z = 3$, $2x - y + z = 3$, $x - y - z = 1$. [2 marks]