

Course: Machine Learning - Foundations
Week 3: Practice questions

1. (1 point)

Answer: $\sqrt{1+1+1}$

2. (1 point)

Answer: $1 \times -1 + 0 \times 2 + 3 \times 4$

3. (1 point)

Answer: C

4. (1 point)

Answer: D

5. (1 point) Can we span the entire 4-d space using the four vectors given in the following matrix?

$$\begin{bmatrix} 1 & 2 & 3 & 4 \\ 0 & 2 & 2 & 0 \\ 1 & 0 & 3 & 0 \\ 0 & 1 & 0 & 4 \end{bmatrix}$$

A. Yes

B. No

Answer: A

6. (1 point)

Answer: C

7. (1 point)

Answer: C

8. (1 point)

Answer: nullity=3-2

9. (1 point)

Answer: Reducing the given matrix to echelon form we get $\begin{bmatrix} 1 & 0 & 9 & 2 \\ 0 & 1 & -3 & 1 \\ 0 & 0 & 0 & 0 \end{bmatrix}$

Non zero rows span row space.

10. (1 point)

Answer: A

11. (1 point)

Answer: Use directional derivative