

1. Which of the following is not a subspace of \mathbb{R}^3 ?
 - A. The set of all vectors with z-coordinate 0
 - B. The set of all vectors with y-coordinate 0
 - C. The set of all vectors with x-coordinate 0
 - D. The set of all vectors with x-coordinate 0 and y-coordinate 0
2. Which of the following is a subspace of \mathbb{R}^4 ?
 - A. The set of all vectors with z-coordinate 0
 - B. The set of all vectors with y-coordinate 0
 - C. The set of all vectors with x-coordinate 0
 - D. The set of all vectors with x-coordinate 0 and y-coordinate 0
3. Which of the following is not a subspace of \mathbb{P}^2 ?
 - A. The set of all vectors with z-coordinate 0
 - B. The set of all vectors with y-coordinate 0
 - C. The set of all vectors with x-coordinate 0
 - D. The set of all vectors with x-coordinate 0 and y-coordinate 0
4. Which of the following is a subspace of M_{22} ?
 - A. The set of all matrices with trace 0
 - B. The set of all matrices with determinant 0
 - C. The set of all matrices with rank 1
 - D. The set of all matrices with rank 2
5. Which of the following is not a subspace of $C[0,1]$?
 - A. The set of all continuous functions
 - B. The set of all differentiable functions
 - C. The set of all integrable functions
 - D. The set of all bounded functions
6. Which of the following is a subspace of $L^2[0,1]$?
 - A. The set of all continuous functions
 - B. The set of all differentiable functions
 - C. The set of all integrable functions
 - D. The set of all bounded functions
7. Which of the following is not a subspace of $S[0,1]$?
 - A. The set of all continuous functions
 - B. The set of all differentiable functions
 - C. The set of all integrable functions
 - D. The set of all bounded functions
8. Which of the following is a subspace of V ?
 - A. The set of all vectors with z-coordinate 0
 - B. The set of all vectors with y-coordinate 0
 - C. The set of all vectors with x-coordinate 0
 - D. The set of all vectors with x-coordinate 0 and y-coordinate 0
9. Which of the following is not a subspace of W ?

- A. The set of all vectors with z-coordinate 0
B. The set of all vectors with y-coordinate 0
C. The set of all vectors with x-coordinate 0
D. The set of all vectors with x-coordinate 0 and y-coordinate 0

1. D
2. A
3. C
4. A
5. D
6. D
7. C
8. D
9. C
10. D
11. C
12. A
13. B
14. B
15. A
16. C
17. B
18. A
19. D
20. B
21. A
22. C
23. B
24. D
25. A