CS 2050 Introduction to Discrete Mathematics: Sets

1. What is a set?

A. A collection of distinct objects

B. A collection of all objects

C. A collection of some objects

D. A collection of no objects

2. Which of the following is an example of a set?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 2, 4, 6, 8}

3. Which of the following is NOT an example of a set?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

4. Which of the following is an example of a subset?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 2, 4, 6, 8}

5. Which of the following is NOT an example of a subset?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

6. Which of the following is an example of a proper subset?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 2, 4, 6, 8}

7. Which of the following is NOT an example of a proper subset?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

8. Which of the following is an example of the empty set?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {}

9. Which of the following is NOT an example of the empty set?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0}

10. Which of the following is an example of a universal set?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. U

11. Which of the following is NOT an example of a universal set?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

12. Which of the following is an example of the complement of a set?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 2, 4, 6, 8}

13. Which of the following is NOT an example of the complement of a set?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

14. Which of the following is an example of the union of two sets?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 2, 4, 6, 8}

15. Which of the following is NOT an example of the union of two sets?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

16. Which of the following is an example of the intersection of two sets?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 2, 4, 6, 8}

17. Which of the following is NOT an example of the intersection of two sets?

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B. {2, 4, 6, 8, 10}

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D. {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

18. Which of the following is an example of the difference of two sets?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 2, 4, 6, 8}

19. Which of the following is NOT an example of the difference of two sets?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

20. Which of the following is an example of the symmetric difference of two sets?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 2, 4, 6, 8}

21. Which of the following is NOT an example of the symmetric difference of two sets?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

22. Which of the following is an example of the cartesian product of two sets?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 2, 4, 6, 8}

23. Which of the following is NOT an example of the cartesian product of two sets?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

24. Which of the following is an example of a power set?

A. {1, 2, 3, 4, 5}

B. {2, 4, 6, 8, 10}

C. {1, 3, 5, 7, 9}

D. {0, 2, 4, 6, 8}

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B. {2, 4, 6, 8, 10}

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C. {1, 3, 5, 7, 9}

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23. Which of the following is NOT an example of the cartesian product of two sets?

A. {1, 2, 3,