Assignment 7

Due on 2019-09-16, 23:59 BST.

Assignment: Unit 9 - Week 7

1. Let R be a binary relation on \( A \times B \) where \( A = \{1, 2, 3\} \) and \( B = \{0, 1, 2\} \). If \( R = \{(1, 0), (2, 1), (3, 2)\} \), then determine if \( R \) is a function. (1 point)

2. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a + b = 3 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

3. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a - b = 1 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

4. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a + b = 5 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

5. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a - b = 2 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

6. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a \cdot b = 6 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

7. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a \div b = 1 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

8. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a + b = 3 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

9. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a - b = 1 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

10. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a \cdot b = 6 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

11. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a \div b = 1 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

12. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a + b = 3 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

13. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a - b = 1 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

14. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a \cdot b = 6 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

15. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a \div b = 1 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

16. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a + b = 3 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

17. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a - b = 1 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

18. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a \cdot b = 6 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

19. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a \div b = 1 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

20. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a + b = 3 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

21. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a - b = 1 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

22. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a \cdot b = 6 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

23. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a \div b = 1 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

24. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a + b = 3 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

25. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a - b = 1 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

26. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a \cdot b = 6 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

27. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a \div b = 1 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

28. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a + b = 3 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

29. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a - b = 1 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

30. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a \cdot b = 6 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)

31. Let \( R \) be a binary relation on \( A \times B \) defined by \( (a, b) \in R \) if \( a \div b = 1 \). Which of the following sets are elements of \( R \)? \( 1, 2, 3, 4, 5, 6 \). (1 point)