Name:_____ Block:_____ Date:_____

Contemporary Mathematics

2.1 Practice Using Set Notation

Practice the worksheet on sets in roster form to write a set using the roster form. We know, to express the set in roster form, the elements of a set are listed within the curly brackets and are separated by commas.

1. The set of first seven natural numbers.

2. The set of whole numbers less than 5.

3. The set of five numbers each of which is divisible by 3.

4. The set of whole numbers less than 20 and divisible by 3.

5. The set of consonants in the word 'possession'.

6. {x : x is a letter in the word 'SCHOOL'}.

7. The squares of first four natural numbers.

Practice writing a set using Set-builder Notation. We know, to express the set in Set-builder Notation, actual elements of the set are not listed but a rule or a statement or a formula in the briefest possible way is written.

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

9. {2, 3, 5, 7, 11}

10. {January, June, July}

11. {a, e, i, o, u}

12. A = {1, 3 5, 7, 9}

Practice the set of questions provided in the worksheet on finite and infinite sets.

We know finite set has a limited number of elements which means the elements can be counted and in infinite set has an unlimited number of elements which means the elements cannot be counted.

State, whether the given set is **infinite** or **finite**:

13. {3, 5, 7, ….}

14. {1, 2, 3, 4}

15. {….., -3, -2, -1, 0, 1, 2}

16. {x | x is an even natural number less than 10, 000}

17. {x | x ∈ N and x > 10}

18. {x : x is an integer between -60 and 60}

19. {x : x is a whole number less than 20}

Practice the set of questions given in the worksheet on cardinal number of a set. Find the cardinal number of a set.

20. A = {0, 1, 2, 4}

21. B = {-3, -1, 1, 3, 5, 7}

22. C = { }

23. D = {3, 2, 2, 1, 3, 1, 2}

24. E = {Natural numbers between 15 and 20}

25. F = {whole numbers from 8 to 14}

Worksheet on equal sets and equivalent sets will help us to practice different types of questions to state whether the pairs of sets are equal sets or equivalent sets.

We know, two sets are equal when they have same elements and two sets are equivalent when they have same number of elements whether the elements should be same or not.

26. {3, 5, 7} and {5, 3, 7}

27. {8, 6, 10, 12} and {3, 2, 4, 6}

28. {7, 7, 2, 1, 2} and {1, 2, 7}

29. {1 4, 9, 16, 25} and {1^2, 2^2, 3^2, 4^2, 5^2}

30. {x : x is an odd natural number less than 8} and {x : x is a letter in the word ‘girl’}

31. {a, b, c, d} and {Δ, ○, □, ∇}

32. {Days of the week} and {Letters of the word ‘HONESTY}