

A.A.29: Set Theory 1: Use set-builder notation and/or interval notation to illustrate the elements of a set, given the elements in roster form

- 1 Which interval notation represents the set of all numbers from 2 through 7, inclusive?
 - 1) $(2, 7]$
 - 2) $(2, 7)$
 - 3) $[2, 7)$
 - 4) $[2, 7]$
- 2 Which interval notation represents the set of all numbers greater than or equal to 5 and less than 12?
 - 1) $[5, 12)$
 - 2) $(5, 12]$
 - 3) $(5, 12)$
 - 4) $[5, 12]$
- 3 In interval notation, the set of all real numbers greater than -6 and less than or equal to 14 is represented by
 - 1) $(-6, 14)$
 - 2) $[-6, 14)$
 - 3) $(-6, 14]$
 - 4) $[-6, 14]$
- 4 Which interval notation represents the set of all real numbers greater than 2 and less than or equal to 20 ?
 - 1) $(2, 20)$
 - 2) $(2, 20]$
 - 3) $[2, 20)$
 - 4) $[2, 20]$
- 5 Which interval notation represents $-3 \leq x \leq 3$?
 - 1) $[-3, 3]$
 - 2) $(-3, 3]$
 - 3) $[-3, 3)$
 - 4) $(-3, 3)$
- 6 The inequality $-2 \leq x \leq 3$ can be written as
 - 1) $(-2, 3)$
 - 2) $[-2, 3)$
 - 3) $(-2, 3]$
 - 4) $[-2, 3]$
- 7 Which notation is equivalent to the inequality $-3 < x \leq 7$?
 - 1) $[-3, 7]$
 - 2) $(-3, 7]$
 - 3) $[-3, 7)$
 - 4) $(-3, 7)$
- 8 Which set of integers is included in $(-1, 3]$?
 - 1) $\{0, 1, 2, 3\}$
 - 2) $\{-1, 0, 1, 2\}$
 - 3) $\{-1, 0, 1, 2, 3, 4\}$
 - 4) $\{-2, -1, 0, 1, 2, 3\}$
- 9 The set of integers in $[6, 10)$ can be written as
 - 1) $\{6, 7, 8, 9, 10\}$
 - 2) $\{7, 8, 9, 10\}$
 - 3) $\{6, 7, 8, 9\}$
 - 4) $\{7, 8, 9\}$

- 10 Which interval notation describes the set $S = \{x | 1 \leq x < 10\}$?
- 1) $[1, 10]$
 - 2) $(1, 10]$
 - 3) $[1, 10)$
 - 4) $(1, 10)$
- 11 Which set-builder notation describes $\{-3, -2, -1, 0, 1, 2\}$?
- 1) $\{x | -3 \leq x < 2, \text{ where } x \text{ is an integer}\}$
 - 2) $\{x | -3 < x \leq 2, \text{ where } x \text{ is an integer}\}$
 - 3) $\{x | -3 < x < 2, \text{ where } x \text{ is an integer}\}$
 - 4) $\{x | -3 \leq x \leq 2, \text{ where } x \text{ is an integer}\}$
- 12 Written in set-builder notation, $S = \{1, 3, 5, 7, 9\}$ is
- 1) $\{x | 1 < x < 9, \text{ where } x \text{ is a prime number}\}$
 - 2) $\{x | 1 \leq x \leq 9, \text{ where } x \text{ is a prime number}\}$
 - 3) $\{x | 1 < x < 9, \text{ where } x \text{ is an odd integer}\}$
 - 4) $\{x | 1 \leq x \leq 9, \text{ where } x \text{ is an odd integer}\}$
- 13 Which set builder notation describes $\{-2, -1, 0, 1, 2, 3\}$?
- 1) $\{x | -3 \leq x \leq 3, \text{ where } x \text{ is an integer}\}$
 - 2) $\{x | -3 < x \leq 4, \text{ where } x \text{ is an integer}\}$
 - 3) $\{x | -2 < x < 3, \text{ where } x \text{ is an integer}\}$
 - 4) $\{x | -2 \leq x < 4, \text{ where } x \text{ is an integer}\}$
- 14 The set $\{1, 2, 3, 4\}$ is equivalent to
- 1) $\{x | 1 < x < 4, \text{ where } x \text{ is a whole number}\}$
 - 2) $\{x | 0 < x < 4, \text{ where } x \text{ is a whole number}\}$
 - 3) $\{x | 0 < x \leq 4, \text{ where } x \text{ is a whole number}\}$
 - 4) $\{x | 1 < x \leq 4, \text{ where } x \text{ is a whole number}\}$
- 15 The set $\{11, 12\}$ is equivalent to
- 1) $\{x | 11 < x < 12, \text{ where } x \text{ is an integer}\}$
 - 2) $\{x | 11 < x \leq 12, \text{ where } x \text{ is an integer}\}$
 - 3) $\{x | 10 \leq x < 12, \text{ where } x \text{ is an integer}\}$
 - 4) $\{x | 10 < x \leq 12, \text{ where } x \text{ is an integer}\}$
- 16 Which notation describes $\{1, 2, 3\}$?
- 1) $\{x | 1 \leq x < 3, \text{ where } x \text{ is an integer}\}$
 - 2) $\{x | 0 < x \leq 3, \text{ where } x \text{ is an integer}\}$
 - 3) $\{x | 1 < x < 3, \text{ where } x \text{ is an integer}\}$
 - 4) $\{x | 0 \leq x \leq 3, \text{ where } x \text{ is an integer}\}$

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1	ANS: 4	REF: fall0704ia
2	ANS: 1	REF: 061021ia
3	ANS: 3	REF: 081117ia
4	ANS: 2	REF: 011119ia
5	ANS: 1	REF: 061310ia
6	ANS: 4	REF: 011318ia
7	ANS: 2	REF: 061411ia
8	ANS: 1	REF: 081430ia
9	ANS: 3	REF: 061529ia
10	ANS: 3	REF: 061217ia
11	ANS: 4	REF: 081022ia
12	ANS: 4	REF: 081321ia
13	ANS: 4	REF: 011222ia
14	ANS: 3	REF: 010917ia
15	ANS: 4	REF: 060930ia
16	ANS: 2	REF: 061128ia