

Set Notation

Set-Builder Notation

Interval Notation

Set Notation

1. Uses brackets { }
2. Means the set of solutions for a function.
3. Example: **{1, 4, 9, 11, 12}**
4. An internet explanation and example: <http://www.mathwords.com/s/set.htm>

Set-Builder Notation

1. Uses brackets, variable, and a line or colon.
2. Means the set of solutions for a function, when a simple list would be too long or cumbersome.
3. Example: **{x | x < 3}** or **{x : x < 3}**
4. Spoken as, “x such that x is less than 3.”
5. An internet explanation and example: http://www.mathwords.com/s/set_builder_notation.htm
6. In the textbook, see the bottom of page 34 (the Study Tip).

Interval Notation

1. Uses straight brackets and parentheses.
 - a. Straight brackets such as [or] means “inclusive;” that particular end number is included as part of the answer.
 - b. Parentheses such as (or) mean “exclusive;” that particular end number is NOT included as part of the answer.
2. Based on the concept of the number line, it means the set of numbers stretching from one end number to another end number.
3. Example: **[4, 15)**.
4. That example means: The solution is the set of numbers from 4 inclusive to 15 exclusive. That means 4 is included, and 15 is not.
5. When infinity is one of the “end” numbers, use parentheses, even though there really is no end. I don’t know why this is so, but it’s math convention (“everybody in math does it this way”) so we’re going to keep with the textbook on this. Example: **(-∞, 8]**.
6. An internet explanation and example: http://www.mathwords.com/i/interval_notation.htm
7. In the textbook, see the middle of page 35 (the Study Tip).

Some other internet links:

<http://www.sosmath.com/algebra/inequalities/ineq02/ineq02.html>
<http://www.purplemath.com/modules/setnotn.htm>
<http://www.onlinemathlearning.com/finite-sets.html>
<http://www.mathwords.com/s/solution.htm>