

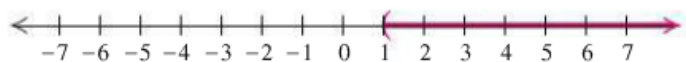
Objectives

- Determine if a number is a solution of an inequality.
- Graph the solutions of an inequality
- Understand and be able to correctly use set-builder notation
- Understand and be able to correctly use interval notation
- Solve inequalities using the Addition and Multiplication Properties of Inequality

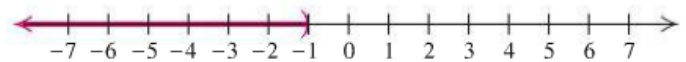
Exercises

1. Determine if each number is a solution of $x \leq 2$
- a) -8 b) -3 c) 6 d) -1
2. Graph each inequality on a number line.
- a) $x < 20$ b) $x > 5$ c) $x \leq -3$ d) $4 \geq x$ e) $-4 \leq x \leq 9$

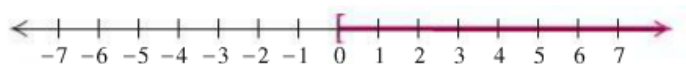
3. Describe the graph using both set-builder notation and interval notation.



4. Describe the graph using both set-builder notation and interval notation.



5. Describe the graph using both set-builder notation and interval notation.



6. Write interval notation for each set given below.

- a) $\left\{x \mid x < 12\right\}$ b) $\left\{x \mid x \geq -4\right\}$ c) $\left\{x \mid 2 \leq x < 12\right\}$

7. Write set-builder notation for each interval given below.

- a) $(-\infty, 19]$ b) $[13, \infty)$ c) $(-2.33, 4.56]$

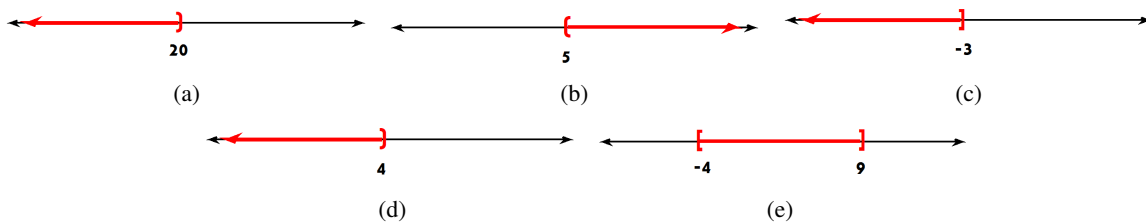
8. Solve each inequality. Use both set-builder notation and interval notation for each answer.

- a) $x - 3 \leq 2$ b) $\frac{1}{4} - x > \frac{2}{3}$ c) $7x \geq 28$ d) $-12x \geq 36$

- e) $-4x - 3 \leq 3 - 2x$ f) $22 - 3x > \frac{2}{3} - 7x$ g) $-16x \geq 4(1 - 5x)$

Answers: 1a) yes, b) yes, c) no, d) yes

2)



3) $\{x \mid x > 1\}$ or $(1, \infty)$, 4) $\{x \mid x < -1\}$ or $(-\infty, -1)$, 5) $\{x \mid x \geq 0\}$ or $[0, \infty)$, 6a) $(-\infty, 12)$

b) $[-4, \infty)$, c) $[2, 12)$, 7a) $\{x \mid x < 19\}$ b) $\{x \mid x \geq 13\}$ c) $\{x \mid -2.33 < x \leq 4.56\}$

8a) $\{x \mid x \leq 5\}$ or $(-\infty, 5]$ b) $\{x \mid x < -5/12\}$ or $(-\infty, -5/12)$ c) $\{x \mid x \geq 4\}$ or $[4, \infty)$ d) $\{x \mid x \leq -3\}$

or $(-\infty, -3]$ e) $\{x \mid x \geq -3\}$ or $[-3, \infty)$ f) $\{x \mid x > -16/3\}$ or $(-16/3, \infty)$ g) $\{x \mid x \geq 1\}$ or $[1, \infty)$

Interval Notation and Graphing

Inequality Notation	Interval Notation	Graph Using Parenthesis/Brackets	Graph using open and closed circles
$x < -2$	$(-\infty, -2)$		
$x \leq -2$	$(-\infty, -2]$		
$x \geq -3$	$[-3, \infty)$		
$x > -3$	$(-3, \infty)$		

Inequality Notation	Interval Notation	Graph Using Parenthesis/Brackets	Graph using open and closed circles
$-4 < x < 3$	$(-4, 3)$		
$-4 \leq x \leq 3$	$[-4, 3]$		
$-4 < x \leq 3$	$(-4, 3]$		
$-4 \leq x < 3$	$[-4, 3)$		

Reducing Test Taking Anxiety

Test anxiety is when a student excessively worries about doing well on a test. This can become a major hindrance on test performance and cause extreme nervousness and memory lapses among other symptoms. The following are tips on reducing test taking anxiety.

- ✓ Being well prepared for the test is the best way to reduce test taking anxiety.
- ✓ Space out your studying over a few days or weeks and continually review class material. Don't try to learn everything the night before.
- ✓ Try to maintain a positive attitude while preparing for the test and during the test.
- ✓ Exercising for a few days before the test will help reduce stress.
- ✓ Get a good night's sleep before the test.
- ✓ Show up to class early so you won't have to worry about being late.
- ✓ Chew gum (if allowed) during the test to help relieve test anxiety.
- ✓ Stay relaxed, if you begin to get nervous take a few deep breaths slowly to relax yourself and then get back to work.
- ✓ Read the directions slowly and carefully.
- ✓ If you don't understand the directions on the test, ask the teacher to explain it to you.
- ✓ Skim through the test so that you have a good idea how to pace yourself.
- ✓ Write down important formulas, facts, definitions and/or keywords in the margin first so you won't worry about forgetting them.
- ✓ Do the simple questions first to help build up your confidence for the harder questions.
- ✓ Don't worry about how fast other people finish their test; just concentrate on your own test.
- ✓ If you don't know an answer to a question skip it for the time being (come back to it later if you have time), and remember that you don't have to always get every question right to do well on the test.
- ✓ Focus on the question at hand. Don't let your mind wander on other things.
- ✓ If you're still experiencing extreme test anxiety after following these tips, seek help from your school counselor.

Visit TestTakingTips.com for more test taking help.