# **Math 6 B Unit Test Guide**

## Inequalities Unit Test

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| **Item** | **Lesson Coverage** | **Objective** | **Lesson Page** | **Assessment Item** |
| 1 | Lesson 2: Solve Inequalities | Use substitution to determine whether a given number in a specified set makes an inequality true. | p. 1-5 | Which **whole** numbers less than 10 are solutions of $4x-8\leq 4?$Answer: 0, 1, 2, 3 |
| 2 | Lesson 2: Solve Inequalities | Use substitution to determine whether a given number in a specified set makes an inequality true. | p. 1-5 | Which of the numbers 1, 2, and 3 is a solution of $2x=1\geq 7?$Answer: 3 |
| 3 | Lesson 2: Solve Inequalities | Describe solving an inequality as a process of determining values that make the inequality true. | p. 6-11 | Which symbol in place of the question mark makes the inequality $2x ?20$ true for the solutions 10, 11, and 12?Note: you will find the option to add a $<, >, \leq , or \geq $ symbol in the Comparison (<) keyboard.Answer: $\geq $ |
| 4 | Lesson 2: Solve Inequalities | Describe solving an inequality as a process of determining values that make the inequality true. | p. 6-11 | What number is not part of the solution set for $\frac{x}{5}\ne 7?$Answer: 35 |
| 5 | Lesson 3: Solutions of Inequalities | Show the solution set of an inequality on a number line.  | p. 1-5 | If the representation of an inequality on a number line features a hollow circle with an arrow pointing leftward, what symbol would be used in the inequality itself?Note: you will find the option to add a $<, >, \leq , or \geq $ symbol in the Comparison (<) keyboard.Answer: < |
| 6 | Lesson 3: Solutions of Inequalities | Identify an infinite number of solutions represented by the solution set of an inequality.  | p. 6-10 | Which statement is true about the number of solutions to an inequality?Answer: It is always infinite. |
| 7 | Lesson 3: Solutions of Inequalities | Identify an infinite number of solutions represented by the solution set of an inequality.  | p. 6-10 | An inequality using any of the inequality symbols has an infinite number of solutions. An inequality using all but one of the inequality symbols also has an infinite number of nonsolutions. Which inequality symbol produces an inequality with a finite number of nonsolutions?Note: you will find the option to add inequality symbols in the Comparison (< ) keyboard.Answer: $\ne $ |
| 8 | Lesson 4: Write Inequalities to Solve Problems | Write inequalities of the forms x > c and x < c to represent a constraint or condition in mathematical and real-world problems. | All | If the amount of carbon dioxide (CO2) in a workplace is greater than 1,000 parts per million (ppm), it can cause drowsiness and complaints of stale air. Write an inequality to show the amount of $\left(c\right)$ in parts per million that would cause drowsiness and complaints of stale air. Begin the inequality with $\left(c\right)$.Answer: $c>1,000$ |
| 9 | Lesson 5: Solve Inequalities By Adding or Subtracting | Solve one step inequalities involving addition or subtraction. | p. 1-5 | What is the solution to the inequality $h+8\leq 9+12?$ Include the appropriate inequality symbol in your response. Answer: $h\leq 13$ |
| 10 | Lesson 5: Solve Inequalities By Adding or Subtracting | Solve real-world problems by writing inequalities involving addition or subtraction. | p. 6-10 | Sherri’s bakery has sold 75 bagels. She needs to sell at least 450 bagels to make a profit for the day. Write an inequality showing the number of bagels (*b*) that she still needs to sell.Note: you will find the option to add a $<, >, \leq , or \geq $ symbol in the Comparison (<) keyboard.Answer: $b\geq 375$ |
| 11 | Lesson 6: Solve Inequalities By Multiplying or Dividing | Solve one step inequalities involving multiplication or division.  | p. 1-4 | What is the solution of the inequality $7x\geq 56?$ Include the appropriate inequality symbol in your response. Note: you will find the option to add a $<, >, \leq , or \geq $ symbol in the Comparison (<) keyboard.Answer: $x\geq 8$ |
| 12 | Lesson 6: Solve Inequalities By Multiplying or Dividing | Solve one step inequalities involving multiplication or division.  | p. 1-4 | What is the solution of the inequality $\frac{p}{5}\leq 8?$ Include the appropriate inequality symbol in your response. Note: you will find the option to add a $<, >, \leq , or \geq $ symbol in the Comparison (<) keyboard.Answer: $p\leq 40$ |
| 13 | Lesson 6: Solve Inequalities By Multiplying or Dividing | Solve real-world problems by writing inequalities involving multiplication or division. | p. 5-10 | The 8 members of a band want to order matching T-shirts without spending more than $136. What is the solution of an inequality representing their situation? Use *t* for the cost of one shirt.Note: you will find the option to add a $<, >, \leq , or \geq $ symbol in the Comparison (<) keyboard.Answer: $t\leq 17$ |
| 14 | Lesson 6: Solve Inequalities By Multiplying or Dividing | Solve real-world problems by writing inequalities involving multiplication or division. | p. 5-10 | How many suitcases averaging 25 pounds apiece can be loaded onto a plane that can hold a maximum of 1,750 pounds of storage? If *s* represents the number of suitcases, how would you write an inequality expressing this situation?Answer: $25s\leq 1,750$ |
| 15 | Lesson 5: Solve Inequalities By Adding or Subtracting | Solve real-world problems by writing inequalities involving addition or subtraction. | p. 6-10 | Stefani needs to earn at least $250 for her trip to the upcoming softball tournament. She babysits on Saturday night and earns $48. Write and solve an inequality to show how much more Stefani needs to earn. Show your work.Answer: $$x=48\geq 250$$$$-48\geq -48$$$$x\geq 202$$Stefani needs to earn at least $202 more. |