

Graphing Linear Inequalities Worksheet Answer Key PDF

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Part 1: Foundational Knowledge

What is the primary difference between a linear equation and a linear inequality?

undefined. Linear equations have no solutions.

undefined. Linear inequalities have solutions that are regions. ✓

undefined. Linear equations are always quadratic.

undefined. Linear inequalities cannot be graphed.

The primary difference is that linear inequalities have solutions that are regions, while linear equations have specific solutions.

What is the primary difference between a linear equation and a linear inequality?

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undefined. Linear equations are always quadratic.

undefined. Linear inequalities cannot be graphed.

Linear equations have specific solutions, while linear inequalities represent regions of solutions.

What is the primary difference between a linear equation and a linear inequality?

undefined. A) Linear equations have no solutions.

undefined. B) Linear inequalities have solutions that are regions. ✓

undefined. C) Linear equations are always quadratic.

undefined. D) Linear inequalities cannot be graphed.

Linear equations represent a single line, while linear inequalities represent a region.

Which of the following symbols are used in linear inequalities?

undefined. =

undefined. > ✓

undefined. ≤ ✓

undefined. ≠

The symbols used in linear inequalities include $>$, \leq , and others, but not $=$ or \neq .

Which of the following symbols are used in linear inequalities?

undefined. =

undefined. > ✓

undefined. ≤ ✓

undefined. ≠

Linear inequalities use symbols like $>$, $<$, \leq , and \geq .

Which of the following symbols are used in linear inequalities?

undefined. A) =

undefined. B) > ✓

undefined. C) ≤ ✓

undefined. D) ≠

The symbols used in linear inequalities include $>$, $<$, \leq , and \geq .

Explain how the boundary line is determined when graphING a linear inequality.

The boundary line is determined by converting the inequality into an equation and graphING it, using a solid line for \leq or \geq and a dashed line for $<$ or $>$.

Explain how the boundary line is determined when graphinga linear inequality.

The boundary line is determined by converting the inequality into an equation.

Explain how the boundary line is determined when graphin a linear inequality.

The boundary line is determined by the equation of the inequality, and whether it is solid or dashed depends on the inequality symbol.

List the types of boundary lines used in graphING linear inequalities and when each is used.

1. Answer 1:

Solid line for \leq or \geq

2. Answer 2:

Dashed line for $<$ or $>$

The types of boundary lines are solid lines (used for \leq or \geq) and dashed lines (used for $<$ or $>$).

Part 2: comprehension

When graphING the inequality $y > 2x + 3$, which region should be shaded?

undefined. Above the line ✓

undefined. Below the line

undefined. On the line

undefined. None of the above

The region above the line should be shaded for $y > 2x + 3$.

When graphing the inequality $y > 2x + 3$, which region should be shaded?

undefined. Above the line ✓

undefined. Below the line

undefined. On the line

undefined. None of the above

The region above the line should be shaded.

When graphin the inequality $y > 2x + 3$, which region should be shaded?

undefined. A) Above the line ✓

undefined. B) Below the line

undefined. C) On the line

undefined. D) None of the above

The region above the line should be shaded.

Which of the following are true about the solutions to a linear inequality?

undefined. A) They can be a single point.

undefined. B) They form a region on the graph. ✓

undefined. C) They are always finite.

undefined. D) They can be verified using a test point. ✓

Solutions to a linear inequality can form a region on the graph and can be verified using test points.

Which of the following are true about the solutions to a linear inequality?

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Solutions to a linear inequality form a region on the graph and can be verified using a test point.

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Solutions can form a region and can be verified with test points.

Describe how you would verify the correct region to shade when graphing a linear inequality.

You can verify the correct region by selecting a test point and checking if it satisfies the inequality.

Describe how you would verify the correct region to shade when graphING a linear inequality.

To verify the correct region to shade, you can use a test point that is not on the boundary line and check if it satisfies the inequality.

Describe how you would verify the correct region to shade when graphing a linear inequality.

You can verify by selecting a test point and checking if it satisfies the inequality.

Part 3: Application and Analysis

Given the inequality $3x - 4y \leq 12$, which point is a solution?

undefined. **A) (0, 0) ✓**

undefined. B) (4, 0)

undefined. C) (0, 4)

undefined. D) (4, 4)

The point (0, 0) satisfies the inequality.

Given the inequality $3x - 4y \leq 12$, which point is a solution?

undefined. (0, 0)

undefined. **(4, 0) ✓**

undefined. (0, 4)

undefined. (4, 4)

The point (4, 0) satisfies the inequality $3x - 4y \leq 12$.

Given the inequality $3x - 4y \leq 12$, which point is a solution?

undefined. **(0, 0) ✓**

undefined. (4, 0)

undefined. (0, 4)

undefined. (4, 4)

The point (0, 0) satisfies the inequality.

If you are given the inequality $y \leq -x + 5$, which of the following points satisfy the inequality?

undefined. **(1, 4) ✓**

undefined. **(2, 3) ✓**

undefined. (3, 1)

undefined. (4, 0) ✓

The points (1, 4), (2, 3), and (4, 0) satisfy the inequality $y \leq -x + 5$.

If you are given the inequality $y \leq -x + 5$, which of the following points satisfy the inequality?

undefined. (1, 4) ✓

undefined. (2, 3) ✓

undefined. (3, 1)

undefined. (4, 0)

Points (1, 4) and (2, 3) satisfy the inequality.

If you are given the inequality $y \leq -x + 5$, which of the following points satisfy the inequality?

undefined. A) (1, 4) ✓

undefined. B) (2, 3) ✓

undefined. C) (3, 1)

undefined. D) (4, 0)

The points (1, 4) and (2, 3) satisfy the inequality.

Graph the inequality $x + 2y > 6$ and describe the steps you took to determine the shaded region.

To graph $x + 2y > 6$, first graph the boundary line $x + 2y = 6$, then shade the region above the line.

Graph the inequality $x + 2y > 6$ and describe the steps you took to determine the shaded region.

Graph the line $x + 2y = 6$, then shade the appropriate region.

Graph the inequality $x + 2y > 6$ and describe the steps you took to determine the shaded region.

To graph the inequality, first graph the boundary line, then shade the appropriate region.

When analyzing the system of inequalities $y > x + 1$ and $y < -x + 5$, what is the nature of their solution set?

undefined. A single point

undefined. A line

undefined. An overlapping region ✓

undefined. No solution

The solution set is an overlapping region where both inequalities are satisfied.

When analyzing the system of inequalities $y > x + 1$ and $y < -x + 5$, what is the nature of their solution set?

undefined. A) A single point

undefined. B) A line

undefined. C) An overlapping region ✓

undefined. D) No solution

The solution set is an overlapping region.

Analyze the graph of the inequalities $y \leq 2x + 1$ and $y \geq -x + 3$. Describe the solution region and its significance.

The solution region is where both inequalities overlap, indicating the values that satisfy both conditions.

Analyze the graph of the inequalities $y \leq 2x + 1$ and $y \geq -x + 3$. Describe the solution region and its significance.

The solution region is where the two shaded areas overlap, indicating the values that satisfy both inequalities.

Part 4: Evaluation and Creation

When analyzing the system of inequalities $y > x + 1$ and $y < -x + 5$, what is the nature of their solution set?

undefined. A single point

undefined. A line

undefined. An overlapping region ✓

undefined. No solution

The solution set is an overlapping region.

Analyze the graph of the inequalities $y \leq 2x + 1$ and $y \geq -x + 3$. Describe the solution region and its significance.

The solution region is where the two shaded areas overlap, indicating the feasible solutions.

Which of the following statements are true about the solution regions of linear inequalities?

undefined. They can be unbounded. ✓

undefined. They are always within the first quadrant.

undefined. They can include entire quadrants. ✓

undefined. They are always bounded by the axes.

The solution regions can be unbounded and can include entire quadrants.

Which of the following statements are true about the solution regions of linear inequalities?

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Solution regions can be unbounded and may include entire quadrants.

Which of the following statements are true about the solution regions of linear inequalities?

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undefined. D) They are always bounded by the axes.

Solution regions can be unbounded and can include entire quadrants.

Create a real-world scenario where a system of linear inequalities could be used to model a situation. Describe the inequalities and the solution region.

A real-world scenario could involve budgeting constraints, where the inequalities represent limits on spending, and the solution region shows feasible options.

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