



Name: _____

Due Date: _____

Teacher: _____

Parent Sign: _____

Math Worksheet for 6th Grade

Intro to inequalities with variables

1. Testing: Is $x = 3$ a solution to $x + 4 > 6$?
2. Testing: Is $x = -1$ a solution to $2x > -2$?
3. Testing: Is $x = 5$ a solution to $3x < 15$?
4. Testing: Is $x = 0$ a solution to $-x > 0$?
5. Testing: Is $x = 4$ a solution to $x - 2 > 1$?
6. Testing: Is $x = 7$ a solution to $2x + 1 > 15$?
7. Testing: Is $x = -2$ a solution to $5 - x > 7$?
8. Testing: Is $x = 2$ a solution to $4x > 8$?
9. Testing: Is $x = -3$ a solution to $-2x > 4$?
10. Testing: Is $x = 6$ a solution to $x/2 < 4$?
11. Plotting: Graph $x > 2$ on a number line and name three integers that satisfy it.
12. Plotting: Graph $x > -1$ on a number line and name three integers that satisfy it.
13. Plotting: Graph $-1 < x < 4$ on a number line and list the integer solutions.
14. Plotting: Graph $x > 0$ on a number line and name three integers that satisfy it.
15. Plotting: Solve $2x + 1 > 7$, then graph the solution on a number line and list three integers that satisfy it.
16. Plotting: Solve $x/3 > 1$, then show how you would graph it and name three integers satisfying it.
17. Plotting: Solve $-2x < 6$, then describe the graph and give two integers that satisfy it.
18. Plotting: Solve $4 - x > 1$, then state the inequality in the form x (relation) number and describe the graph.
19. Plotting: Graph $x < 5$ and state whether the circle at 5 is open or closed.
20. Plotting: Graph $x > -3$ and state in words which direction you shade.
21. Plotting example: Solve and graph $3x - 2 > 4$. List three integers that satisfy the inequality.
22. Plotting example: Solve and graph $x + 5 < 2$. List all integer solutions.
23. Plotting example: Solve and graph $2(x - 1) > 6$. Give three integers that satisfy it.
24. Plotting example: Solve and graph $-3x > 9$. Give the solution in inequality form and two integers that satisfy it.
25. Plotting example: Solve and graph $(x/4) > 2$. List integers that satisfy it.
26. Word problem: Maya needs at least 50 minutes to finish her homework. Let m = minutes left. Write an inequality for m and say whether $m = 49$ works.
27. Word problem: A roller coaster requires riders to be at most 48 inches tall to ride a certain seat. Let h be a rider's height in inches. Write an inequality for allowed heights and say whether a rider 49 inches tall can ride.
28. Word problem: A team can have no more than 12 players on the field. Let p be number of players. Write inequality and state if $p = 12$ is allowed.
29. Word problem: Lily scored 78 points so far; she needs more than 85 to win a prize. Let x be additional points she must score. Write inequality and solve for x .



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30. Word problem: A movie theater sells tickets for groups of fewer than 10 people in a single purchase. If g is the number in a group, write an inequality and say if $g = 10$ is allowed.
31. Word problem: Jason has 20 and wants at least 5 left after buying x dollars worth of snacks. Write inequality for x and find the largest whole-dollar amount he can spend.
32. Word problem: A backpack can hold at most 15 kg. If a book weighs 2 kg, express how many books b can be put in the backpack using an inequality and find the greatest whole number b allowed.
33. Word problem: A fundraiser needs more than 100 cans of food. They already have 72. Let x be additional cans needed. Write and solve inequality for x .
34. Word problem: A pool can have at least 8 people to open for a party. If currently there are 5 signed up, how many more people y are needed? Write inequality and solve.
35. Word problem: Sam earns 7 per hour. He wants to earn at least 70. Let h be hours worked. Write inequality and solve for h (hours can be fractional).
36. Word problem: A bike race limits racers to be older than 10 years old (strictly greater). Let a be age in years. Write inequality and say if $a = 10$ qualifies.
37. Mixed: Is $x = 3$ a solution to $2(x + 1) \geq 8$?
38. Mixed: Solve the inequality $5x - 5 < 10$. Then list three integers that satisfy it.
39. Mixed: Solve $x/5 \geq 2$ and give the smallest integer solution.
40. Mixed: Solve $-x + 4 > 1$ and give two integer solutions.
41. Mixed: Test whether $x = -1$ satisfies $3x + 2 \geq -1$.
42. Mixed: Solve and graph $x - 7 \geq -2$. List integer solutions.
43. Mixed: Solve $6 - 2x \geq 0$. Write the solution as x (relation) number and name one integer solution.
44. Mixed: If $4x + 1 < 13$, solve for x and state whether $x = 3$ works.
45. Word problem: A teacher needs at least 24 crayons for her class. If each box has 8 crayons and she buys n boxes, write an inequality for n . Find the smallest whole number n that works.
46. Word problem: A car rental charges 30 per day. Alex has at most 150 to spend. If d is days rented, write inequality and find the largest whole number of days.
47. Word problem: A gym requires members to be at least 14 years old and younger than 60. Let a be age. Write the compound inequality for acceptable ages and say whether $a = 60$ is allowed.
48. Word problem: Jenna read 18 pages and wants to read no more than 50 pages today. Let p be additional pages she reads. Write inequality and find the maximum p .
49. Word problem: A contest accepts entries from teams of 2 to 5 people inclusive. Let t be team size. Write inequality showing allowed team sizes and say whether $t = 1$ and $t = 5$ are allowed.
50. Word problem: A recipe calls for less than 3 cups of sugar. If you already added 1.25 cups, let s be additional cups you can add. Write and solve an inequality for s and give the maximum amount you may add.