

# Algebra 1 · Linear and Compound Inequalities · Test

Common Core A-REI.B.3, A-CED.A.1, A-CED.A.3 · mathovore.fr

Name: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Score: \_\_\_\_\_

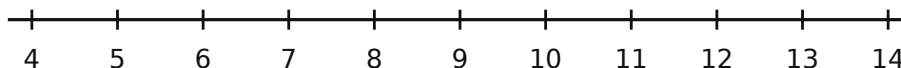
This test has 9 questions worth 20 points and takes about 45 minutes. It covers solving multi-step and compound inequalities, graphing on a number line, interval notation and modeling with inequalities. Show all work. Calculators are allowed.

## Test information

- **Grade:** Algebra 1
- **Chapter:** Linear and Compound Inequalities
- **Common Core:** A-REI.B.3, A-CED.A.1, A-CED.A.3
- **Time:** 45 minutes
- **Total:** 20 points (Question 1: 2 pts; Question 2: 2 pts; Question 3: 2 pts; Question 4: 2 pts; Question 5: 3 pts; Question 6: 3 pts; Question 7: 2 pts; Question 8: 3 pts; Question 9: 1 pt)

## Question 1: Solve and graph (2 points)

Solve  $5x - 12 > 3x + 6$  and graph the solution.



Number line for the graph.

## Question 2: Distribute with a negative (2 points)

Solve  $-3(x - 4) \leq 2x + 7$ .

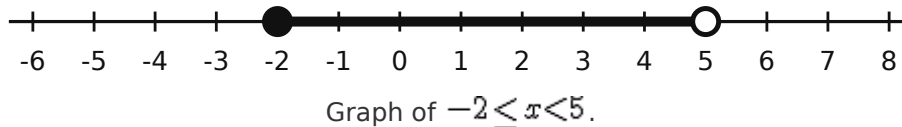
## Question 3: Negative fraction (2 points)

Solve  $-\frac{3}{4}x + 2 > 8$ .

#### Question 4: Read a compound graph (2 points)

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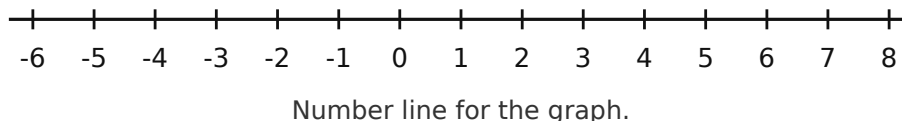
Write the compound inequality shown by the graph and write it in interval notation.



#### Question 5: Three-part inequality (3 points)

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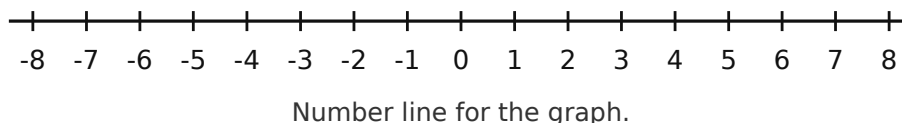
Solve  $-7 \leq 3x - 1 < 11$  and graph the solution.



#### Question 6: Either-or inequality (3 points)

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Solve  $3x + 4 \leq -5$  or  $2x - 1 > 7$  and graph the solution.



#### Question 7: Test a value (2 points)

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Consider the inequality  $6 - 2x \geq 10$ .

- Determine whether  $x = -2$  is a solution. (1 point)
- Solve the inequality. (1 point)

#### Question 8: County fair budget (3 points)

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Jamal has \$40 for the county fair. Entry costs \$12 and each ride ticket costs \$2.50.

- Write an inequality for the number of tickets  $t$ . (1 point)
- Solve it. (1 point)

c. State the greatest number of tickets he can buy. (1 point)

### **Question 9: Special case (1 point)**

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Solve  $2(x+3) < 2x+4$  and describe the solution.