MSTAR PRACTICE WORKSHEET

Lesson 8-4: Write and Represent Inequalities

Grade 6 Mathematics · Standard 6.AT.9

Name: _____ Date: _____

These are MSTAR-style questions written for this curriculum to rehearse the format. They are not official Maryland assessment items. MSTAR — Maryland's new state test, first given in spring 2027 — uses the same kinds of questions you see here: selected response, select-all, two-part evidence questions, and written responses.

Part A — Skills Check

Warm up with the lesson's core skills — one best answer each.

Question 1 SELECTED RESPONSE · 1 POINT

Which inequality represents: 'The temperature is less than 40 degrees'?

(A) $t < 40$

(B) $t > 40$

(C) $t \leq 40$

(D) $t = 40$

Question 2 SELECTED RESPONSE · 1 POINT

Which inequality represents: 'You must be at least 48 inches tall to ride'?

(A) $h \geq 48$

(B) $h > 48$

(C) $h < 48$

(D) $h \leq 48$

Question 3 SELECTED RESPONSE · 1 POINT

Which inequality represents: 'A store can hold no more than 75 people'?

(A) $p \leq 75$

(B) $p < 75$

(C) $p \geq 75$

(D) $p > 75$

Question 4 SELECTED RESPONSE · 1 POINT

Which inequality represents: 'The speed limit is more than 25 mph'?

(A) $s > 25$

(B) $s \geq 25$

(C) $s < 25$

(D) $s = 25$

Question 5 SELECTED RESPONSE · 1 POINT

A parking garage charges if your stay is more than 2 hours. Which inequality represents times t that are charged?

(A) $t > 2$

(B) $t \geq 2$

(C) $t < 2$

(D) $t \leq 2$

Question 6 SELECTED RESPONSE · 1 POINT

A clue says the suspect carried at least 12 stolen gems. Which inequality shows the number g of gems?

(A) $g \geq 12$

(B) $g > 12$

(C) $g \leq 12$

(D) $g < 12$

Part B — Test-Format Questions

These match the state test's formats: two-part questions, select-all, and written responses.

Question 7 TWO-PART QUESTION

Part A

A fair ride requires each rider to be at least 48 inches tall. Let h be a rider's height in inches. Which inequality represents the heights that are allowed to ride?

Fill in the bubble next to the one best answer.

(A) $h \geq 48$

(B) $h > 48$

(C) $h \leq 48$

(D) $h < 48$

Part B

Answer Part A before Part B — Part B asks about your reasoning.

Which explanation justifies the symbol chosen above?

(A) The words 'at least' mean a rider must be taller than 48 inches, so 48 inches is not allowed.

(B) The words 'at least' point to the smallest numbers, so riders must be shorter than 48 inches.

(C) The words 'at least' include the boundary value, so a rider who is exactly 48 inches tall may ride.

(D) The words 'at least' and 'at most' describe the same group of heights, so either symbol works.

Question 8 WRITTEN RESPONSE · 2 POINTS

Type II Reasoning: Reversing 'No More Than'

> Priya read this situation: 'A backpack can hold no more than 15 pounds.' She let w stand for the number of pounds in the backpack and wrote the inequality $w \geq 15$.

Explain Priya's misconception and give the correct inequality.

Write your answer in complete sentences. Show or explain your mathematical thinking.

Part C — Show Your Thinking

Answer in writing, the way the state test's constructed responses work.

Question 9 WRITTEN RESPONSE · 2 POINTS

Write two different real-world situations: one that uses > and one that uses ≥. Explain why the situations need different symbols even though both mean 'bigger.'

Write your answer in complete sentences. Show or explain your mathematical thinking.

When you finish, check your reasoning with your teacher or family. Your teacher has the scoring guide for the written responses.