LESSON MAKER PRO

Inequality Story Lines

Match inequalities to number lines and real situations.

GRADE 6 · 6.PFA.4.c

6.PFA.4.c "Given a linear inequality in one variable, create a corresponding contextual situation or create a number line graph."

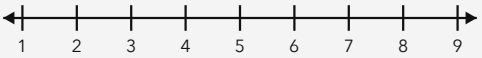
NAME _____ DATE _____

GRAPH THE BOUNDARY

Use an open circle when the endpoint is not included, for < or >. Use a closed circle when the endpoint is included, for ≤ or ≥. Shade left for values less than the endpoint and right for values greater than the endpoint.

WORKED EXAMPLE

Graph x < 5 on the number line.



1. Find 5 on the number line.
2. Because x is less than 5, draw an open circle at 5.
3. Shade to the left of 5.

Answer: Open circle at 5, shaded to the left.

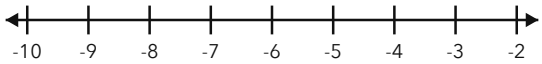
PRACTICE 6 problems

1 Graph x ≤ 12 on the number line.



ANSWER _____

2 Graph x > -7 on the number line.



ANSWER _____

3 The inequality x ≥ 18 is about collecting trading cards. Write two sentences. Tell what x means, then write a situation that matches the inequality.

ANSWER _____

4 The inequality x < 6 represents dollars spent on a game item. Write one sentence that matches the inequality.

ANSWER _____

5 For x ≥ 15, describe the number line graph. Include the circle type and the shading direction.

ANSWER _____

6 Write one sentence about temperature that could match x > -8.

ANSWER _____

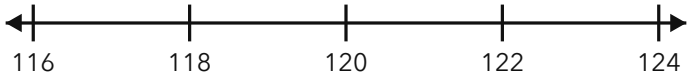
APPLY IT Show your work

1 A music app has a playlist limit. The inequality $x \leq 45$ describes the total minutes x in a playlist. Write two sentences that create a matching situation. Tell what x means in the first sentence.

WORK SPACE

ANSWER _____

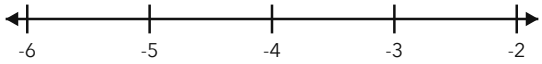
2 A phone game update needs more than 120 MB of free storage. Let x be the free storage in MB. Graph $x > 120$ on the number line.



ANSWER _____

CHALLENGE One step up

The inequality $x \leq -3$ can describe more than one situation. Write two one-sentence situations that match it, one about temperature and one about elevation. Then graph the inequality on the number line and write one sentence explaining why the circle is closed.



WORK SPACE AND ANSWER

ANSWER KEY

Inequality Story Lines

GRADE 6 · 6.PFA.4.c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Graph x ≤ 12 on the number line.	**Closed circle at 12, shaded to the left.**
2	Graph x > -7 on the number line.	**Open circle at -7, shaded to the right.**
3	The inequality x ≥ 18 is about collecting trading cards. Write two sentences. Tell what x means, then write a situation that matches the inequality.	**x is the number of trading cards Ava has. Ava has at least 18 trading cards.**
4	The inequality x < 6 represents dollars spent on a game item. Write one sentence that matches the inequality.	**A player spends less than $6 on a game item.**
5	For x ≥ 15, describe the number line graph. Include the circle type and the shading direction.	**Closed circle at 15, shaded to the right.**
6	Write one sentence about temperature that could match x > -8.	**The temperature x is greater than -8 degrees.**

PART 2 · APPLY IT

1. **x is the total number of minutes in Mia's playlist. Mia's playlist lasts no more than 45 minutes.** The first sentence defines the variable. The second sentence uses no more than, which matches ≤ 45.
2. **Open circle at 120, shaded to the right.** More than does not include 120, so the circle is open. Values greater than 120 are to the right.

CHALLENGE

Graph: closed circle at -3, shaded to the left. The temperature x during a winter hike is at most -3 degrees Celsius. The elevation x of a cave entrance is at most -3 meters relative to sea level. The circle is closed because -3 is included by ≤.

Accept equivalent context statements that clearly define x and preserve the inequality meaning. For graphs, accept a correctly placed open or closed circle with shading or an arrow in the correct direction.