

Inequality Match Up

Show what an inequality means in a graph or real situation.

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 _____

MATCH THE MEANING

An inequality tells which values are allowed. For a number line graph, use an open circle when the endpoint is not included and a closed circle when it is included. Shade left for values less than the endpoint and right for values greater than the endpoint.

WORKED EXAMPLE

Graph $x < 9$ on a number line.

1. The symbol $<$ means values less than 9.
2. Place an open circle at 9 because 9 is not included.
3. Shade the number line to the left of 9.

Answer: Open circle at 9; shade left.

PRACTICE 6 problems

1 Graph $x \geq 4$ on a number line.

ANSWER _____

2 Graph $x > 13$ on a number line.

ANSWER _____

3 Create a real-life situation for $x \leq 20$. Let x be a number of minutes.

ANSWER _____

4 Create a real-life situation for $x < 35$. Let x be the length of a playlist in minutes.

ANSWER _____

5 Graph $x \leq 100$ on a number line.

ANSWER _____

6 Create a real-life situation for $x > 45$. Let x be the number of cans collected for a food drive.

ANSWER _____

APPLY IT Show your work

- 1** A digital art contest accepts files that are at most 18 MB. Let x be the file size in MB. Write an inequality and graph it on a number line.

WORK SPACE

ANSWER _____

- 2** In a basketball video game, a team must score more than 60 points to unlock a bonus level. Let x be the number of points scored. Write an inequality and graph it on a number line.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A student graphs $x \leq 16$ with an open circle at 16 and shading to the left. Is the graph correct? Explain your reasoning.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Graph $x \geq 4$ on a number line.	Closed circle at 4; shade right.
2	Graph $x > 13$ on a number line.	Open circle at 13; shade right.
3	Create a real-life situation for $x \leq 20$. Let x be a number of minutes.	Sample answer: A student has no more than 20 minutes to read before dinner.
4	Create a real-life situation for $x < 35$. Let x be the length of a playlist in minutes.	Sample answer: A playlist must be shorter than 35 minutes.
5	Graph $x \leq 100$ on a number line.	Closed circle at 100; shade left.
6	Create a real-life situation for $x > 45$. Let x be the number of cans collected for a food drive.	Sample answer: A food drive needs to collect more than 45 cans.

PART 2 • APPLY IT

- $x \leq 18$; closed circle at 18 and shade left.** At most means the file can be 18 MB or any smaller size. Use $\leq$ and include 18 with a closed circle.
- $x > 60$; open circle at 60 and shade right.** More than means 60 is not enough, so use $>$. Values greater than 60 are to the right on a number line.

CHALLENGE

No. $x \leq 16$ includes 16, so the circle at 16 must be closed. Shading left is correct.

Accept equivalent graph descriptions, such as filled or solid circle for closed circle. For contextual situations, accept any realistic situation that clearly defines x and matches the inequality, including whether the endpoint is included.