LESSON MAKER PRO

Circle and Shade

Show inequality solutions on a number line

GRADE 6 · 6.AT.C.10.c

6.AT.C.10.c "Represent solutions of such inequalities on a number line."

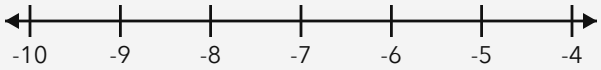
NAME _____ DATE _____

THE BIG IDEA

An open circle means the endpoint is not a solution. A filled circle means it is a solution. Shade right for greater values and left for lesser values.

WORKED EXAMPLE

Graph x < -7 on this number line.



1. Find -7.
2. Draw an open circle because -7 is not included.
3. Shade left for values less than -7.

Answer: Open circle at -7; shade left.

PRACTICE 4 problems

1 For x > 2, name the circle and shading direction.

ANSWER _____

2 For x <= -1, name the circle and shading direction.

ANSWER _____

3 For x >= 5, name the circle and shading direction.

ANSWER _____

4 For x < 0, name the circle and shading direction.

ANSWER _____

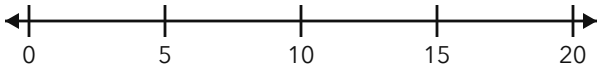
APPLY IT Show your work

1 You unlock a game avatar when you earn at least 8 points. Let x be your points. Write an inequality and graph it on the number line.



ANSWER _____

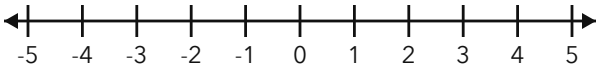
2 A ride allows backpacks weighing less than 15 pounds. Let x be the weight in pounds. Write an inequality and graph it on the number line.



ANSWER _____

CHALLENGE One step up

Graph -3 < x <= 1 on the number line. Explain why the circles differ.



WORK SPACE AND ANSWER

ANSWER KEY

Circle and Shade

GRADE 6 · 6.AT.C.10.c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	For x > 2, name the circle and shading direction.	**Open circle at 2; shade right.**
2	For x <= -1, name the circle and shading direction.	**Filled circle at -1; shade left.**
3	For x >= 5, name the circle and shading direction.	**Filled circle at 5; shade right.**
4	For x < 0, name the circle and shading direction.	**Open circle at 0; shade left.**

PART 2 · APPLY IT

1. **x >= 8; filled circle at 8, shade right.** At least 8 includes 8 and every greater score.
2. **x < 15; open circle at 15, shade left.** Less than 15 excludes 15 and includes smaller weights.

CHALLENGE

Open circle at -3, filled circle at 1; shade only between them. The circles differ because -3 is excluded and 1 is included.

Accept any clear marking of the correct endpoints and shaded region. For the word problems, accept equivalent inequalities with the variable on either side.