Inequalities   Name _____

Graph each inequality.   **Answer Key** _____ Date ___ Period ___

1) $x > 6$

(number line 0 to 10, open circle at 6, shaded right)

2) $n \leq 8$

(number line 0 to 10, closed circle at 8, shaded left)

3) $r \geq 0$

(number line -2 to 8, closed circle at 0, shaded right)

4) $a < 14$

(number line 6 to 16, open circle at 14, shaded left)
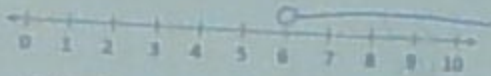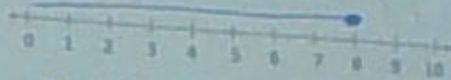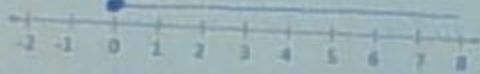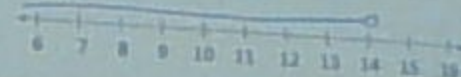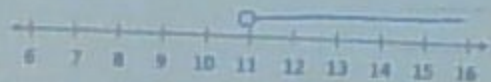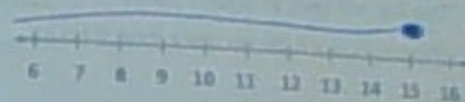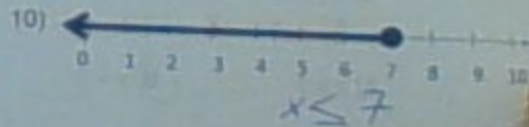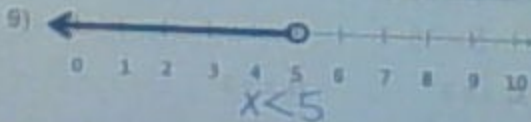
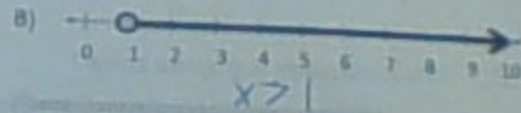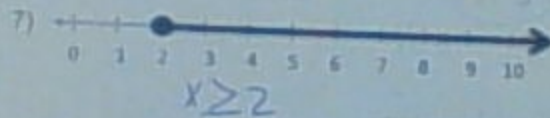Write each statement as an inequality. Then graph on a number line.

5) p is greater than 11 ___$p > 11$___

(number line 6 to 16, open circle at 11, shaded right)

6) x is less than or equal to 15 ___$x \leq 15$___

(number line 6 to 16, closed circle at 15, shaded left)

Write an inequality shown by each graph.

7)

(number line 0 to 10, closed circle at 2, shaded right)

$x \geq 2$

8)

(number line 0 to 10, open circle at 1, shaded right)

$x > 1$

9)

(number line 0 to 10, open circle at 5, shaded left)

$x < 5$

10)

(number line 0 to 10, closed circle at 7, shaded left)

$x \leq 7$

Write and graph an inequality for the following.

11) A bridge's load limit (how much it can hold) is at most 9 tons ___$x \leq 9$___

(number line 6 to 16)

12) The large tree in the park is more than 200 years old ___$x > 200$___

(number line 196 to 206, open circle at 200)

13) You can spend no more than $28 ___$x \leq 28$___

(number line 24 to 34, closed circle at 28, shaded left)

14) The trip will take at least 4 hours $x \geq 4$
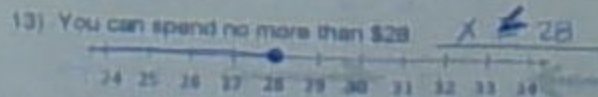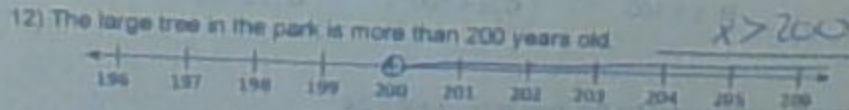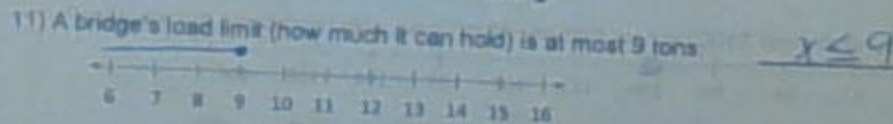
State whether the inequality is true or false. Show how you know.

15) $22 - w > 4$ $w = 20$

$2 > 4$
No

16) $2x - 7 \geq 7$ $x = 9$

$9 \geq 7$
Yes

17) $4x + 8x < 20$ $x = 2$

$8 + 16$

$24 < 20$
No

18) $5h - 16 + h \leq 14$ $h = 4$

$20 - 16 + 4$

$4 + 4$

$8 \leq 14$ Yes

Write an inequality for the following statements.

19) The trip will take at least 4 hours $x < 4$

20) The car ride will be no more than 8 hours. $C \leq 8$

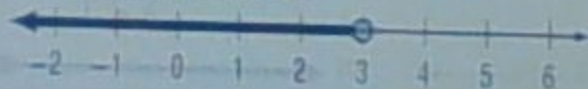21) Which of the following is a solution of the inequality $h + 9 < 20$?

A. 13   B. 12   C. 11   D. 10
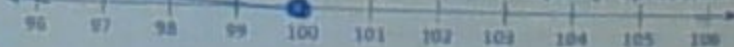
$h = 11$

22)   Which inequality is graphed below?

-2 -1 0 1 2 3 4 5 6

A. $x \geq 3$ B. $x < 3$ C. $x \leq 3$ D. $x > 3$

23)   Zachary can spend at most $100 on new clothes. Which inequality represents this situation?

96 97 98 99 100 101 102 103 104 105 106

A. $s < 100$ B. $s > 100$ C. $s \leq 100$ D. $s \geq 100$

24)   Which graph shows the solution set for the inequality $t + 6 \geq 24$

$-6 \quad -6$

$t \geq 18$

a)
15 16 17 18 19 20 21 22

b)
15 16 17 18 19 20 21 22

c)
15 16 17 18 19 20 21 22

d)
15 16 17 18 19 20 21 22