LESSON 12-4

## Practice A

### *Inequalities*

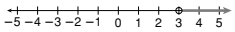
**Choose an inequality for each situation.**

| $x > 10$ | $x \geq 10$ | $x < 10$ | $x \leq 10$ |
|---|---|---|---|

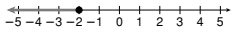
1. The temperature today will be at least 10°F. $x \geq 10$
2. The temperature tomorrow will be no more than 10°F. $x \leq 10$
3. Yesterday, there was less than 10 inches of snow. $x < 10$
4. Last Wednesday, there was more than 10 inches of snow. $x > 10$

**Complete the graph for each inequality.**

5. $a > 3$




6. $r \leq -2$

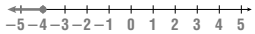



**Graph each inequality.**

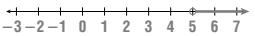
7. $w \geq 0$




8. $b \leq -4$

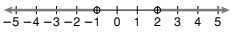



9. $j > 5$

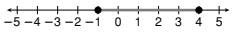



**Complete the graph for each compound inequality.**

10. $t > 2$ or $t < -1$

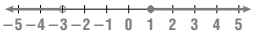



11. $-1 \leq f \leq 4$

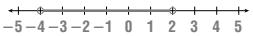



**Graph each compound inequality.**

12. $y \geq 1$ or $y < -3$




13. $-4 < p < 2$




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## Practice B

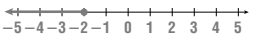
### *Inequalities*

**Write an inequality for each situation.**

1. The temperature today will be at most 50°F. $x \leq 50$
2. The temperature tomorrow will be above 70°F. $x > 70$
3. Yesterday, there was less than 2 inches of rain. $x < 2$
4. Last Monday, there was at least 3 inches of rain. $x \geq 3$

**Graph each inequality.**

5. $t \leq -2$



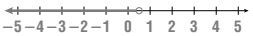

6. $j > -5$




7. $y \leq 0$




8. $b < \frac{1}{2}$

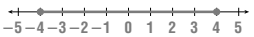



**Graph each compound inequality.**

9. $f > 3$ or $f < -2$




10. $-4 \leq w \leq 4$



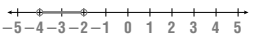

11. $b < 0$ or $b \geq 5$




12. $y \geq 3$ or $y \leq -1$




13. $-4 < m < -2$




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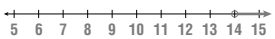

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## Practice C

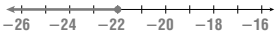
### *Inequalities*

**Graph each inequality or compound inequality.**

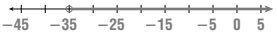
1. $x > 14$



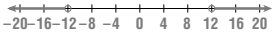

2. $t \leq -22$



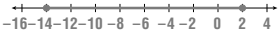

3. $j > -35$



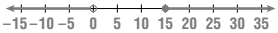

4. $f > 12$ or $f < -12$




5. $-14 \leq w \leq 2$



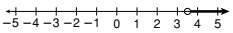

6. $b < 0$ or $b \geq 15$



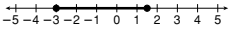

**Write each statement using inequality symbols.**

7. The number $x$ is between $-9$ and $-19$. $-19 < x < -9$
8. The number $y$ is at most 5. $y \leq 5$
9. The number $g$ is greater than or equal to 4 or less than $-2$. $g \geq 4$ or $g < -2$
10. The number $p$ is less than or equal to $-8$. $p \leq -8$

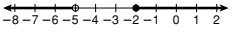
**Write an inequality shown by each graph.**

11. 

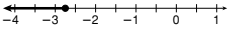
$x > 3.5$

12. 

$-3 \leq x \leq 1.5$

13. 

$x < -5$ or $x \geq -2$

14. 

$x \leq -2\frac{3}{4}$

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LESSON 12-4

## Reteach

### *Inequalities*

An equation is a statement that says two quantities are equal. An **inequality** is a statement that says two quantities are **not** equal.

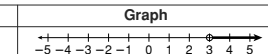
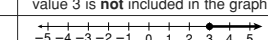
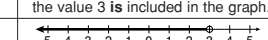
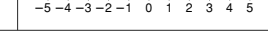
The chart shows symbols and phrases that indicate inequalities.

| < | > | ≤ | ≥ |
|---|---|---|---|
| Less than | Greater than | Less than or equal to | Greater than or equal to |
| Fewer than | More than | At most | At least |
| Below | Above | No more than | No less than |

**Complete the inequality for each situation.**

1. No more than 200 people can be seated in the restaurant.
   number of people seated in restaurant $\leq$ 200
2. The waiting time for a table is at least 20 minutes.
   waiting time $\geq$ 20 minutes
3. The price of all special dinner entrees is below $10.
   special dinner entrees $<$ $10
4. The Yoshida family spent more than $40 for dinner.
   Yoshida family spent $>$ $40

An inequality can be shown on a graph.

| The graph shows: | Inequality | Graph |
|---|---|---|
| All numbers greater than 3 | $x > 3$ |  The *open circle* at 3 shows that the value 3 is **not** included in the graph. |
| All numbers greater than or equal to 3 | $x \geq 3$ |  The *closed circle* at 3 shows that the value 3 **is** included in the graph. |
| All numbers less than 3 | $x < 3$ |  |
| All numbers less than or equal to 3 | $x \leq 3$ |  |

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