

Name \_\_\_\_\_

Date \_\_\_\_\_

## Writing and Graphing Inequalities in Real-World

### Problems

For each question, write an inequality. Then, graph your solution.

1. Keisha needs to make at least 28 costumes for the school play. Since she can make 4 costumes each week, Keisha plans to work on the costumes for at least 7 weeks.

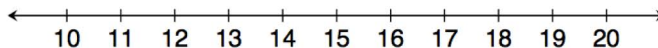


2. If Keisha has to have the costumes complete in 10 weeks or fewer, how will our solution change?

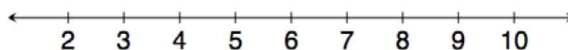


Write and graph an inequality for each problem.

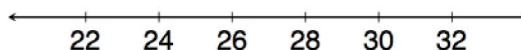
1. At least 13.



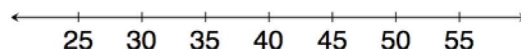
2. Less than 7.



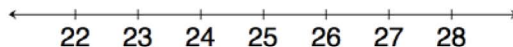
3. Chad will need at least 24 minutes to complete the 5K race. However, he wants to finish in under 30 minutes.



4. Eva saves \$60 each week. Since she needs to save at least \$2,400 to go on a trip to Europe, she will need to save for at least 40 weeks.



5. Clara has \$100. She wants to buy 4 pairs of the same pants. Due to tax, Clara can afford pants that are less than \$25.



6. A gym charges \$30 per month plus \$4 extra to swim in the pool for an hour. Because a member has just \$50 to spend at the gym each month, the member can swim at most 5 hours.

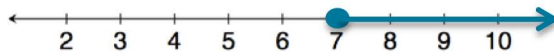


For each question, write an inequality. Then, graph your solution.

1. Keisha needs to make at least 28 costumes for the school play. Since she can make 4 costumes each week, Keisha plans to work on the costumes for at least 7 weeks.

$$x \geq 7$$

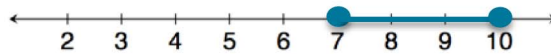
*Keisha should plan to work on the costumes for 7 or more weeks.*



2. If Keisha has to have the costumes complete in 10 weeks or fewer, how will our solution change?

*Keisha had 7 or more weeks in Problem 1. It will still take her at least 7 weeks, but she cannot have more than 10 weeks.*

$$7 \leq x \leq 10$$



Write and graph an inequality for each problem.

1. At least 13.

$$x \geq 13$$



2. Less than 7.

$$x < 7$$



3. Chad will need at least 24 minutes to complete the 5K race. However, he wants to finish in under 30 minutes.

$$24 \leq x < 30$$



4. Eva saves \$60 each week. Since she needs to save at least \$2,400 to go on a trip to Europe, she will need to save for at least 40 weeks.

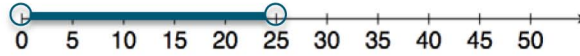
$$x \geq 40$$



5. Clara has \$100. She wants to buy 4 pairs of the same pants. Due to tax, Clara can afford pants that are less than \$25.

*Clara must spend less than \$25, but we also know that Clara will spend more than \$0 when she buys pants at the store.*

$$0 < x < 25$$



6. A gym charges \$30 per month plus \$4 extra to swim in the pool for an hour. Because a member has just \$50 to spend at the gym each month, the member can swim at most 5 hours.

*The member can swim in the pool for 5 hours. However, we also know that the total amount of time the member spends in the pool must be greater than or equal to 0 hours because the member may choose not to swim.*

$$0 \leq x \leq 5$$

