

Name: \_\_\_\_\_

Hour: \_\_\_\_\_

## I-10 Practice C

### Introduction to Inequalities

Compare. Write  $<$  or  $>$ .

1.  $13 + 16 \underline{\hspace{1cm}} 28$

2.  $12(7) \underline{\hspace{1cm}} 86$

3.  $165 - 108 \underline{\hspace{1cm}} 52$

4.  $24(6) \underline{\hspace{1cm}} 8(19)$

5.  $87 + 31 \underline{\hspace{1cm}} 127$

6.  $15(8) \underline{\hspace{1cm}} 90 + 8$

Solve and graph each inequality.

7.  $Y - 8 > 11$



8.  $7 + a \leq -12$



9.  $t - 6 \geq 12$



10.  $h - 9 > -5$



11.  $8 \geq c + 8$



12.  $k + 6 \geq -9$



13.  $-4 + d < -18$



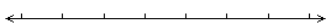
14.  $22 + b \leq 110$



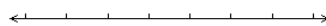
15.  $w + 3 > -4$



16.  $8 + c \leq -8$



17.  $b + 12 > 4$



18.  $p - 10 \leq -20$



19. Sarah wants to walk at least 45 minutes today. She has been walking for 28 minutes. Write and solve an inequality to determine how much longer she should walk to reach her goal.

20. A gasoline tank can hold at most 15 gallons. The car has 4 gallons of gas. Write and solve an inequality to determine how many gallons of gas Travis can add at the gas station.

## I-10 Challenge You Make the Call!

Sometimes, an inequality is expressed with words like *no* or *not*. But, the algebraic inequality may be clearer if you avoid those words.

### Example

The fire regulation says that this restaurant may seat no more than 350 people.

- the inequality as stated: no more than 350
- the equivalent without *no*: less than or equal to 350
- algebraic inequality: Let  $x$  = the number of diners allowed.  $x \leq 350$

Sometimes, two conditions of inequality can be expressed as a single inequality.

### Example

$x > -9$  and  $x < -3$  means that  $x$  is between  $-9$  and  $-3$ , and can be written as  $-9 < x < -3$ .

### Write an algebraic inequality, identifying what the variable represents.

1. The recipe calls for not less than 15 oz of butter.
2. Mr. Valdez says he cannot contribute more than \$500.
3. On his typing test, Philip can have no more than 4 errors to pass.
4. The team will have to score no fewer than 20 points to win.
5. This canister can hold at most 5 lb of rice.
6. The sleeping bag is useful for camping when temperatures are at least  $-5^\circ\text{F}$ .

### If $x$ is a whole number, write the solution of each inequality.

7.  $7 \leq x < 11$
8.  $15 > x \geq 9$
9.  $-2 < x < 7$
10.  $-10 \leq x < -5$