

LESSON **3-2** **Problem Solving**
Solving One-Step Inequalities by Adding or Subtracting

Write the correct answer.

1. Sumiko can watch only 10 hours of television each week. She has watched 4 hours of television already. Write and solve an inequality to show how many more hours of television Sumiko can watch.

Solution:

Let h = hours of TV she has left

$$4 + h \leq 10$$

$$h \leq 6$$

2. Wayne's homework is to answer at least 20 questions from his textbook. So far, he has finished 9 of them. Write, solve, and graph an inequality to show how many more problems Wayne must do.

Let _____ = number of questions left to answer

$$\text{_____} \geq 20$$

$$\text{_____} \geq \text{_____}$$



The table below shows how much money each class has raised for charity so far. Use this information to answer questions 3–5.

3. The school has a goal of raising at least \$3,000. Which inequality shows how much more money m the school needs to raise to reach its goal?
- A** $m \geq 215$
B $m < 215$
C $m \geq 215$

| Class | Amount Raised (\$) |
|-------------|--------------------|
| Seniors | 870 |
| Juniors | 650 |
| Sophomores | 675 |
| First-Years | 590 |

4. The juniors want to raise more money than the seniors. Which expression shows how much more money j the juniors must raise to beat the seniors?
- F** $j < 220$
G $j \geq 220$
H $j > 220$

5. A business plans to donate no more than half as much as the senior class raises. Which inequality shows how much money b the business will contribute?
- A** $\frac{1}{2}(870) \leq b$
B $870 \leq \frac{1}{2}b$
C $\frac{1}{2}(870) \geq b$

LESSON

Problem Solving

3-2 Solving One-Step Inequalities by Adding or Subtracting

Write the correct answer.

1. Sumiko can watch only 10 hours of television each week. She has watched 4 hours of television already. Write and solve an inequality to show how many more hours of television Sumiko can watch.

Solution:

Let h = hours of TV she has left

$$4 + h \leq 10$$

$$h \leq 6$$

2. Wayne's homework is to answer at least 20 questions from his textbook. So far, he has finished 9 of them. Write, solve, and graph an inequality to show how many more problems Wayne must do.

Let q = number of questions left to answer

$$q + 9 \geq 20$$

$$q \geq 11$$



The table below shows how much money each class has raised for charity so far. Use this information to answer questions 3–5.

3. The school has a goal of raising at least \$3,000. Which inequality shows how much more money m the school needs to raise to reach its goal?

- A $m \geq 215$
- B $m < 215$
- C $m \geq 215$

| Class | Amount Raised (\$) |
|-------------|--------------------|
| Seniors | 870 |
| Juniors | 650 |
| Sophomores | 675 |
| First-Years | 590 |

4. The juniors want to raise more money than the seniors. Which expression shows how much more money j the juniors must raise to beat the seniors?

- F $j < 220$
- G $j \geq 220$
- H $j > 220$

5. A business plans to donate no more than half as much as the senior class raises. Which inequality shows how much money b the business will contribute?

- A $\frac{1}{2}(870) \leq b$
- B $870 \leq \frac{1}{2}b$
- C $\frac{1}{2}(870) \geq b$