

**LESSON**  
**3-2**

**Problem Solving**  
**Solving Inequalities by Adding or Subtracting**

Write the correct answer.

1. Sumiko is allowed to watch no more than 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.  
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2. A satellite will be released into an orbit of more than 400 miles above the Earth. The rocket carrying it is currently 255 miles above Earth. Write and solve an inequality to show how much higher the rocket must climb before it releases the satellite.  
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3. Wayne’s homework is to solve at least 20 questions from his textbook. So far, he has completed 9 of them. Write, solve, and graph an inequality to show how many more problems Wayne must complete.  
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4. Felix wants to get at least one hour of exercise each day. Today, he has run for 40 minutes. Write, solve, and graph an inequality that shows how much longer Felix needs to exercise to reach his goal.  
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The high school has been raising money for charity and the class that raises the most will be awarded a party at the end of the year. The table below shows how much money each class has raised so far. Use this information to answer questions 5–7.

5. The school has a goal of raising at least \$3000. Which inequality shows how much more money  $m$  they need to raise to reach their goal?  
**A**  $m \geq 215$                       **C**  $m \leq 215$   
**B**  $m < 215$                          **D**  $m > 2785$

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

6. The juniors would like to raise more money than the seniors. The seniors have completed their fundraising for the year. Which expression shows how much more money  $j$  the juniors must raise to overtake the seniors?  
**F**  $j \leq 220$                       **H**  $j \geq 220$   
**G**  $j < 220$                          **J**  $j > 220$
7. A local business has agreed 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**  $\frac{1}{2}(870) \leq b$                       **C**  $\frac{1}{2}(870) \geq b$   
**B**  $870 \leq \frac{1}{2}b$                          **D**  $870 \geq \frac{1}{2}b$