4-5B Lesson Master

SKILLS  Objective B
In 1–4, solve and check.
1. \( m + 6 > -m + 2 \)  
2. \( 6p - 10 \leq 2p + 3 \)
3. \( -6(0.5r + 2.5) + 3 \geq -2r \)  
4. \( -2(a - 10) < 6(a - 2) \)

In 5–8, solve and graph on a number line.
5. \( 4(q + 3) > 10q \)  
6. \( -6(t - \frac{1}{2}) \leq 3(t + 7) \)
7. \( 4(2n - 1.5) \leq 2(n - 1.5) \)  
8. \( -5(2b + 1) > -(b - 3) - 2 \)

PROPERTIES  Objective F
9. Fill in what was done to solve the inequality.
   \( 5x - 5 > -6x + 13 \)
   \( 21x - 5 > 13 \)  
   \( 21x > 18 \)  
   \( x > \frac{18}{21} \)  
   \( x > \frac{6}{7} \)  

Algebra
10. Consider the inequality $50z + 30 < 68 - 43z$.
   
   a. Solve it by first adding $43z$ to each side.
   
   b. Solve it by first adding $-50z$ to each side.
   
   c. Compare your results for a and b. What does this suggest?

11. Delishus Doings caters events a flat rate of $500 plus $100 per hour after the first 2 hours. Cathy’s Catering has a flat rate of $620 per event plus $70 per hour after the first 3 hours. For how many hours of an event would hiring Cathy’s Catering cost no more than hiring Delishus Doings?

12. Joe got took out student loans during college, and by the end of college had $36,000 of debt, interest free. Joe repaid the debt at $8,000 per year. After his loan was paid off, he began saving $8,000 a year. Joe’s college friend Steve had no college debt and started saving $4,000 per year after college. (In both cases, ignore savings interest.)
   
   a. In how many years will Joe be out of debt?
   
   b. Write expressions for the amount of money each man has saved.
   
   c. Write and solve an inequality to find when Joe will have saved more money than Steve.