Name _____ Date _____

2.2 Practice A

In Exercises 1–3, tell which number you would add to or subtract from each side of the inequality to solve it.

1. $h + 3 < 8$
2. $p - 5 \geq 2$
3. $-3 > n - 1$

In Exercises 4–12, solve the inequality. Graph the solution.

4. $t - 3 > -2$
5. $4 < p - 2$
6. $2 \geq h - 5$

7. $v - 5 > -9$
8. $p + 3 \leq 4$
9. $-7 < 7 + t$

10. $6 + k > 5$
11. $12 \leq r + 5$
12. $w - (-4) < 8$

In Exercises 13–16, write the sentence as an inequality. Then solve the inequality.

13. A number minus 2 is greater than -10.

14. A number plus 7 is at most 4.

15. The difference of a number and 6 is less than 1.

16. Eight is greater than or equal to the sum of a number and 3.

17. You and your friend are planning to walk across an old bridge. The bridge can hold at most 1000 pounds. The total weight of the people currently on the bridge is 675 pounds. You weigh 156 pounds.

   a. Write and solve an inequality that represents how much your friend can weigh within the limits of the bridge.

   b. Your friend weighs 182 pounds. Can you and your friend both walk on the bridge? Explain.

18. The school baseball record for no-hitter innings is 112 in a season. This year's team currently has 87 no-hitter innings. What are the possible numbers of additional no-hitter innings the team can achieve to match or break the school record in a season?

19. Which of the following inequalities are equivalent to the inequality $5 < -y + b,$ where b is a constant? Select all that apply. Justify your answer.

   a. $5 + y + b < 0$
   b. $y < b - 5$

   c. $b - 5 > y$
   d. $b - 5 < y$

2.3 Practice A

In Exercises 1–6, solve the inequality. Graph the solution.

1. $3x \leq 9$

2. $2m < -6$

3. $-18 < 6t$

4. $40 \leq 8p$

5. $\dfrac{b}{3} \geq -1$

6. $\dfrac{x}{3} \leq 8.7$

In Exercises 7–12, solve the inequality. Graph the solution.

7. $-5j \leq 10$

8. $-4t \geq 4$

9. $-14 > -7y$

10. $-24 < -6a$

11. $\dfrac{k}{-2} > 2$

12. $\dfrac{h}{-1} < 7$

13. You have $25 to buy 6 fishing lures. Write and solve an inequality that represents the prices you can pay per fishing lure.

In Exercises 14–16, solve the inequality. Use a graphing calculator to verify your answer.

14. $54 \leq 9g$

15. $13m > 65$

16. $3 < -\dfrac{3}{7}d$

17. Describe and correct the error in solving the inequality.

$$\times \qquad 5 < \frac{w}{-3}$$

$$-3 \bullet (5) > -3 \bullet \left(\frac{w}{-3} \right)$$

$$-15 > w$$

The solution is $w > -15.$

18. You bike for 2 hours at a speed no faster than 17.6 miles per hour.

   a. Write and solve an inequality that represents the possible numbers of miles you bike.

   b. The bike portion of an Ironman competition is 112 miles. Your friend says that if you continue to bike at this pace, you will be able to complete the bike portion of the Ironman in less than 6.5 hours. Is your friend correct? Explain.