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

Study Guide: Inequalities

*Write an inequality for each situation described below*

1. You can walk there in 4 minutes (m) or less. \_\_\_\_\_\_\_\_\_\_\_\_\_

2. Each prize (p) is worth over $50. \_\_\_\_\_\_\_\_\_\_\_\_\_

3. Last weekend, there were more than 30 birds (b) in the sanctuary. \_\_\_\_\_\_\_\_\_\_\_\_

4. Next weekend, there will be at most 10 birds (b) in the sanctuary. \_\_\_\_\_\_\_\_\_\_\_\_

5. Tomorrow’s attendance (a) will be less than 25 people. \_\_\_\_\_\_\_\_\_\_\_\_\_

6. Today’s attendance (a) will be at least 750 people. \_\_\_\_\_\_\_\_\_\_\_\_\_

*Solve and graph each of the following inequalities.*

|  |  |  |
| --- | --- | --- |
| 7. m – (-8) > -32 | 8.  < 14 | 9. -14 ≤ g + (-7) |
| 10. 5x – 7 < 28 | 11. -10 ≥ -3 + | 12. -8 + -5k + (-14) ≤ -2 |
| 13. 30 ≥ -5(3g + 6) | 14. 11 +  – 19 > -8 | 15. -3(m – 6) ≤ -72 |

*Define a variable (V), write an inequality (I), and solve (S) & graph the inequality to represent the solution set.*

|  |  |
| --- | --- |
| 16. The school record for the most points scored in a football season is 80. Andrew has 65 points so far this season. What is the solution set for how many more points he needs to break the record?  V: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  I:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  S: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 17. A ride at an amusement park requires a height of at least 48 inches. Your little sister is 38 inches tall. What is the solution set for how many more inches must she grow in order to go on the ride?  V: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  I:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  S: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 18. Each month, Adam pays a service fee of $15 plus $0.06 per kilowatt-hour for electricity. This month, he has budgeted $75 for his electricity. What is the solution set for the number of kilowatt-hours Adam can use and stay within budget?  V: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  I:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  S: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 19. Your mom gave you $15 to go to the movies. You spend $7 on your ticket and $5 on a small bag of popcorn. You want to spend the rest of your money on boxes of candy to share with your friends. If each box of candy costs $2, what solution set represents the number of boxes of candy you can buy?  V: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  I:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  S: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 20. Six times the difference of a number and 8 is at most 85. What solution set represents what the number can be? | V: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  I:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  S: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |