Solving Equations/Inequalities Unit Test

Name _____ Date _____

Solve the equation. Check your solution.

1. $0.5h - 1.4 = 0.4$

2. $6x + 6 = 24$ [A] 18 [B] 3 [C] 30 [D] 2

3. $\frac{4}{5}y - 3 = 5$

4. $3x - 7 = 20$ [A] -10 [B] 5 [C] 6 [D] 9

5. $\frac{x}{4} + 5 = 7$

6. Which equation is represented by the statement? Seventeen is the difference of a number divided by 2 and 1.

   [A] $17 - \frac{n}{2} = 1$ [B] $17 = \frac{n}{2} - 1$ [C] $17 - n = \frac{2}{1}$ [D] $17 = n + \frac{2}{1}$

7. Write the algebraic equation represented by the statement. Then solve the equation.
   The sum of 2 and 7 times a number is –5.

8. Solve the equation. Check your solution.
   $\frac{5}{7}y - 3 = 7$

Write an inequality to represent the statement. Then graph the inequality on a number line.

9. x is greater than or equal to 1.

10. x is greater than or equal to 14 and less than 20.

11. Tina can type at least 30 words per minute.

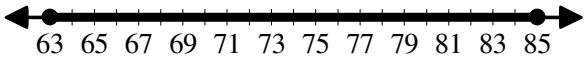
Solve the inequality.

12. $-4 + y > 17$ [A] $y < -21$ [B] $y > -21$ [C] $y < 21$ [D] $y > 21$

Solve the inequality.

13. $14u \le 168$ [A] $u \le 154$ [B] $u \le 182$ [C] $u \ge 12$ [D] $u \le 12$

14. The graph below represents the length of time (in minutes) for students to complete a biology exam at a local college.



a. A student who earned an "A" in the class was one of the first to finish the exam. Estimate the amount of time for this student to complete the exam.
b. Estimate the range of times to complete the exam of the students represented in the graph.

Solve the inequality.

15. $\frac{3}{11}x \ge 12$

16. $-5x + 15 > 10$ [A] $x > 0$ [B] $x < 1$ [C] $x > 1$ [D] $x < 0$

17. $6x - 12 > 24$ [A] $x < 6$ [B] $x > 30$ [C] $x > 6$ [D] $x < 30$