Name _____ Date _____ Period _____

Solving Inequalities

Graph the solution set on a number line.

1. $x > 7$ **2.** $x \leq -2$ **3.** $x > -15$ **4.** $x \geq 11$ **5.** $x < 4$

6. $x \geq -3$ **7.** $x < -92$ **8.** $x \geq 0$ **9.** $x \leq 23$

Graph the solution set on a number line and write the answer in interval notation.

10. $x < -2$ **11.** $x \leq -5$ **12.** $x \geq -11$ **13.** $x \geq 0$ **14.** $x < 13$

15. $x > 8$ **16.** $x < 61$ **17.** $x \geq 100$ **18.** $x < 23$

Solve the inequalities.

19. $5x > -25$ **20.** $x - 1 \leq -8$ **21.** $2x + 14 > -6$

22. $3x - 5 \geq -23$ **23.** $-2x < -12$ **24.** $-3x + 4 \leq 19$

25. $5x + 2 < 6x - 8$ **26.** $2(x - 5) \geq -10$ **27.** $3(2x - 4) \leq 5(x - 1)$

28. $4(3x - 1) < 5(2x - 4)$ **29.** $-3x + 4(x - 1) \geq 2(x - 2)$ **30.** $2(x - 3) \leq 7x - 1$

31. $\dfrac{2}{9}x - \dfrac{5}{6} \leq \dfrac{13}{18}$ **32.** $\dfrac{2}{3}x - \dfrac{3}{4} > 5$ **33.** $\dfrac{5}{6}x - 1 \leq \dfrac{2}{3}$

34. $\dfrac{2}{3}x - \dfrac{3}{4} \leq \dfrac{5}{12}x - \dfrac{1}{6}$ **35.** $\dfrac{2}{15}x - \dfrac{1}{3} > \dfrac{4}{5}x + 2$ **36.** $\dfrac{3}{8}x - \dfrac{2}{3} \geq \dfrac{5}{12}x + \dfrac{1}{6}$

37. $\dfrac{x + 3}{4} < \dfrac{x - 2}{3}$ **38.** $\dfrac{x + 3}{4} + \dfrac{2x - 5}{6} \geq 1$ **39.** $\dfrac{3x - 7}{5} - \dfrac{x + 4}{2} \leq -\dfrac{19}{2}$

40. $\dfrac{6 + 3x}{4} \leq x$ **41.** $\dfrac{2a + 3}{5} \geq a - 6$ **42.** $\dfrac{5y - 1}{3} > 2y - 4$

43. $\dfrac{2x + 1}{5} - \dfrac{3x - 4}{2} < 2$ **44.** $\dfrac{5x - 2}{3} - \dfrac{3x - 7}{6} \leq 1$ **45.** $\dfrac{2x - 1}{4} - \dfrac{3x + 4}{6} > -\dfrac{5}{12}$

46. A student got a 63% and 54% on his first two exams. What must he score on his third exam to have at least an average of 70% on his first 3 exams?

47. A student has test scores of 92%, 87%, and 78%. What must she need to score on the last test to maintain at least an 80% average?