PROBLEM SET 1-5

(Absolute Value Equations and Inequalities)

Solve each equation:

1. $|3x| = 16$ **2.** $|x-3| = 9$ **3.** $|3x+4| = -3$

4. $2|3x-2| = 14$ **5.** $|x+4| + 3 = 17$ **6.** $|4-x| - 10 = 1$

7. $|x-1| = 5x + 10$ **8.** $|2x+5| = 3x + 4$ **9.** $3|4x-1| - 5 = 10$

10. $4|3x+4| = 4x + 8$ **11.** $\frac{1}{2}|3x+5| = 6x + 4$ **12.** $\frac{2}{3}|3x-6| = 4(x-2)$

Solve each inequality. Graph the solutions.

13. $|x-5| \geq 8$ **14.** $3|2x-1| \geq 21$ **15.** $|6x-2| + 4 < 22$

16. $4|2x+3| - 7 \leq 9$ **17.** $\frac{1}{4}|x-3| + 2 < 1$ **18.** $|2x+3| - 6 \geq 7$

19. $2|4x-1| + 6 > 20$ **20.** $\left|\frac{x-3}{2}\right| + 2 < 6$ **21.** $\left|\frac{x+5}{3}\right| - 3 > 6$