This worksheet is homework. Please keep it with your homework for any homework checks.

Do all your work on a separate sheet of paper.

Solve the following quadratic inequalities. Write your solution in interval form and sketch it on the number line.

1. $(x-2)(x+5) \leq 0$ **2**. $(2x+4)(x-3) > 0$

3. $x^2 - 3x - 18 \leq 0$ **4**. $x^2 + 4x + 4 \geq 0$

5. $x^2 - 9 < 0$ **6**. $2x^2 + x \geq 1$

7. $x^2 > 3(x+6)$ **8**. $(x+4)^2(x-6) > 0$

9. $x^2 < 4$ **10**. $3x^2 + x < 2x^2 + 12$

11. $(x-1)(x+5) \leq 7$ **12**. $(4x-1)(x-3) < 15$

13. $(x+2)(x-5)(x+6) \leq 0$ **14**. $(x^2-9)(x+6) > 0$

Answers (in interval notation only – don't forget to also graph them.)

1. $[-5, 2]$ **2**. $(-\infty, -2) \cup (3, \infty)$ **3**. $[-3, 6]$ **4**. All real numbers

5. $(-3, 3)$ **6**. $(-\infty, -1] \cup [1/2, \infty)$ **7**. $(-\infty, -3) \cup (6, \infty)$ **8**. $(6, \infty)$

9. $(-2, 2)$ **10**. $(-4, 3)$ **11**. $[-6, 2]$ **12**. $(-3/4, 4)$

13. $(-\infty, -6] \cup [-2, 5]$ **14**. $(-6, -3) \cup (3, \infty)$