

**Introduction to Calculus Mr. Holcomb 2008/2009**

**Something that makes you smile:** \_\_\_\_\_

**Problem**

1. (12 points) For the following, write an English sentence about numbers on the number line then describe the solution set using a number line and using interval notation if appropriate.

a.  $|x - 1| \leq 9$

b.  $|x + 1| > |x|$

2. (6 points) Find an inequality involving absolute value whose solution set is:

a.  $[-7, 0]$

b.  $(-\infty, -4] \cup [6, +\infty)$

3. (10 points) A light on top of a post is 14 feet above the ground. Is it dark and a 5 foot tall woman is standing 18 feet from the post. A friend is standing 17 feet from the same post so that the tip of his shadow coincides with the tip of her shadow. What is his height? Include a labeled drawing to help support your answer.