Section 3.8 – Boundary Problems

Problem Set 1

State an inequality for the following situations and solve it.

1. One number is five less than another and their sum is at least 22.
2. One number is half another. Their sum is at most -12.
3. One number is three times another. Their difference is no less than the two more than the second.
4. The sum of two consecutive integers is at least 0.
5. Three consecutive even integers are such that the first plus the second is at most twice the second.
6. The length of a rectangle is five less than its width. The perimeter as at least 800.
7. The sides of a triangle are three consecutive even integers. The perimeter is at most 200.
8. A cell phone plan charges a flat rate of $25 per month with an additional .02 per phone call made. If your maximum cell phone bill can be $29, how many phone calls can you make?
9. The car accident rate is given by $A = -3.2x + 800$ where x is the number of years after 2000. For what years will the accident rate be less than 750?
10. Jon has scored 88, 85 and 91 on his first three exams. What range of grades on his fourth exam will give him an A average, i.e. an average that's at least 90?

