

## Section 3.8 – Boundary Problems

### Problem Set 3

**State an inequality for the following situations and solve it.**

1. One number is six less than twice another. Their sum is at least 200.
2. One number is three less than four times another. Their difference is at most 50.
3. One number is a fifth of another. Their difference is at most half the first.
4. Three of the six sides of a hexagon are the same length. The other three sides are the next three consecutive integers and the perimeter is at most 400.
5. The sum of two consecutive even integers is at least three more than half the first.
6. The cost of producing a CD is \$1.56 and the cost of producing a DVD is \$2.51. If a company is producing a CD/DVD set, i.e. a set with one of each, what is the maximum number of sets they can produce for \$500?
7. Say you have three consecutive integers where their sum is less than half the sum of the first and the last.
8. The sides of a triangle are consecutive even integers and the perimeter is at least 225.
9. A day care center has 1,000 feet of fencing. If the width of a playground has to be 50' more than the length, what range of values can the dimensions have?
10. Maxwell's grades in English are 75, 80 and 82. What grade does he need on his fourth exam to keep his current average?