

## Assignment #21.2: Inequality Story Problems

- 1) Claude's age is 4 times Maude's age. The sum of their ages is greater than 25. What is the youngest age that each of them could be?
- 2) The school was buying a large block of tickets for a Mariners game. They agreed to buy at least 250 tickets. Part of their agreement was to buy 80 more level 2 tickets than level 1 tickets. What was the smallest number of level 2 tickets they could buy?
- 3) Orgo planned to buy a fancy new outfit for his feet, consisting of a pair of shoes and a pair of socks. He decided he would spend no more than a total of \$120. If the price of the shoes was \$20 more than 3 times the price of the socks, find the highest possible price of the socks.
- 4) The length of a rectangle is 10 cm less than 3 times its width. If the perimeter of the rectangle is not more than 180 cm, find the maximum length of the rectangle.

*Solve and graph* the following inequalities.

5)  $5x + 10(-x + 14) < 95$

6)  $5x - 3 - 2(4 - x) \leq 8x - 10$

*Solve and graph* the following compound inequalities.

7)  $x - 4 > 1$      **or**      $x + 1 \leq 4$

8)  $5x + 4 \leq 11 - 2x$      **and**      $2(2x - 8) - 8x \leq 0$

Solve the following formulas for the variables indicated.

9)  $\frac{pc}{x} = \frac{c}{p}$  Solve for  $x$ .

10)  $F = \frac{9}{5}C + 32$  Solve for  $C$ .