

### Short quiz over Sec 3-1

When you are done with the quiz bring it up and take a sheet with four problems and begin working on it.

**Expenses** The sophomore class is planning a picnic. The cost of a permit to use a city park is \$250. To pay for the permit, there is a fee of \$.75 for each sophomore and \$1.25 for each guest who is not a sophomore. Two hundred sophomores plan to attend. Write and solve an inequality to find how many guests must attend for the sophomores to pay for the permit.

$$1.25G + (.75)(200) \geq 250$$

G = # of guests

$$\begin{array}{r} 1.25G + 150 \geq 250 \\ -150 \quad -150 \end{array}$$

$$\begin{array}{r} 1.25G \geq 100 \\ \hline 1.25 \end{array}$$

$$G \geq 80$$

The sophomores need at least 80 guests to come to the picnic to make sure that they don't lose money.

**Health Care** Systolic blood pressure is the higher number in a blood pressure reading. It is measured as your heart muscle contracts. The formula  $P \leq \frac{1}{2}a + 110$  gives the normal systolic blood pressure  $P$  based on age  $a$ .

a. At age 20, does 120 represent a maximum or a minimum normal systolic pressure? Since  $P \leq 120$  at age 20 this is a maximum pressure

b. Find the normal systolic blood pressure for a 50-year-old person.

$$P \leq \frac{1}{2}(50) + 110$$

$$25 + 110$$

$$P \leq 135$$

Since  $P \leq 135$ :

The normal blood pressure for a 50-year old is at most 135.

**Commission** Joleen is a sales associate in a clothing store. Each week she earns \$250 plus a commission equal to 3% of her sales. This week her goal is to earn no less than \$460. Write and solve an inequality to find the dollar amount of the sales she must have to reach her goal.

$$\begin{array}{r} 250 + .03S \geq 460 \\ -250 \quad -250 \end{array}$$

$$.03S \geq 210$$

Joleen must have at least \$7000 in sales to meet her goal.

$$S \geq 7000$$