

## SYSTEM of INEQUALITIES: WORD PROBLEMS

\*\*\*\*\*Key words\*\*\*\*\*

- “at least”: greater than or equal to ( $\geq$ )
- “no more than”/ “at most”: less than or equal to ( $\leq$ )
- “more than”: greater than ( $>$ )
- “less than”: less than ( $<$ )

**For each of the following: Write a system of linear inequalities to model each situation. DO NOT SOLVE BY GRAPHING.**

1. Bob has at least \$5,000 in savings. His savings balance is more than 3 times greater than his checking balance.

2. Jonah is going to the store to buy candles. Small candles cost \$3.50 and large candles cost \$5.00. He needs to buy at least 20 candles, and he can spend no more than \$80.

3. John is doing a fundraiser for school. He needs to sell at least \$200 worth of items. Shirts cost \$10 each and hats cost \$8 each. He must sell more than 12 hats.

Name \_\_\_\_\_ Date \_\_\_\_\_ Per \_\_\_\_\_

**Inequality Assignment: For each of the following: Write a system of linear inequalities to model each situation. DO NOT SOLVE**

1. Bill is doing a fundraiser for soccer. He needs to sell at least \$100 worth of items. Candy bars cost \$2 each and shirts cost \$10 each. He must sell more than 4 candy bars.
2. Annie has at least \$9,000 in savings. Her savings balance is more than 2 times greater than her checking balance.
3. Sam is going to the store to buy pumpkins. Small pumpkins cost \$2.50 and large pumpkins cost \$6.00. He needs to buy at least 20 pumpkins, and he can spend no more than \$90.

**Review: Graph the solution set to the system of inequalities on the axes below.**

$$4. \begin{cases} y \leq \frac{5}{2}x + 2 \\ y \geq \frac{1}{2}x - 2 \end{cases}$$

$$5. \begin{cases} x + y < -3 \\ 5x - y \leq -3 \end{cases}$$

