

Real-Life Inequalities

Words/Phrases For Less Than or Equal To	\leq	Words/Phrases For Greater Than or Equal To	\geq
maximum no more than at most does not exceed at or below		minimum no less than at least at or above	

Examples:

- 1) Missouri state law sets the maximum speed, s , for cars on the highway at 70 mph.

$$s \leq 70$$

- 2) Tyrik can eat no more than 8 bags of chips before he is stuffed. He has already eaten 3 bags. What is the range of possible bags of chips, b , he can continue to eat before he is stuffed?

$$\begin{array}{r}
 \cancel{8} + b \leq 8 \\
 - \cancel{3} \quad - 3 \\
 \hline
 b \leq 5
 \end{array}$$

- 3) The difference between the outside temperature and the inside temperature is at least 5 degrees. If the inside temperature is 75 degrees, what is the range of possible outside temperatures, t ?

$$\begin{array}{r}
 t - \cancel{75} \geq 5 \\
 + \cancel{75} \quad + 75 \\
 \hline
 t \geq 80
 \end{array}$$

outside - inside ≥ 5

- 4) Ciara wants to earn a minimum of \$50. If she earns \$9 per hour, what is the range of possible hours, h , she must work?

$$\begin{array}{r}
 \cancel{9}h \geq 50 \\
 \cancel{9} \quad \quad 9 \\
 \hline
 h \geq 5.5
 \end{array}$$

* do not reverse because divide by positive

- 5) Ms. Draper is splitting up a pack of pencils. The number of pencils each group will get cannot exceed 3. What is the possible range of pencils in the pack, p , that Ms. Draper started with, if she is splitting them into 5 groups?

$$\begin{array}{r}
 \div \\
 \cancel{5} \cdot p \leq 3 \cdot 5 \\
 \hline
 p \leq 15
 \end{array}$$

* do not reverse because you multiply by a positive