Key Words

< (less than)	= (equal)	> (greater than)
is less than	is / are / will be /only	more than
is under	is the same as	above
is below	that is equal to	over
shorter / smaller than	exactly	greater / larger than
fewer than	half (= .5* or ½ *)	exceeds / increased
is lower than		longer than
beneath		is higher than
a better deal		

≤ (less than or equal to)	≠ (not equal to)	≥ (greater than or equal to)
at most	is not equal to	at least
maximum	is not the same as	minimum
bottom	is different / differs from	top
is no more than		is no less than

Translate the verbal phrases into inequalities.

1.) *x is* at most *6*

$$x \le 6$$

2.) *You must be* at least *25 years old to rent a car.*

$$x \ge 25$$

3.) *a number that is* at least *90* $\qquad x \ge 90$

4.) *a number that is* at most *30* $\qquad x \le 30$

1.) Katie had 38 recipes for desserts in her file box before adding x new recipes. If she now has at least 50 recipes, which inequality could be used to determine the number of new recipes she added to her files?

A. $x + 50 \geq 38$

B. $x + 38 \geq 50$

C. $x > 50 + 38$

D. $x + 38 \leq 50$

2.) Juanita wants to buy several cans of beans that sell for $1.29 per can and a loaf of bread that costs $1.40. Juanita only has a twenty-dollar bill. Which inequality could she use to find out how many cans x she is able to purchase?

A. $1.40x + 1.29 > 20$

B. $1.29x + 1.40 \geq 20$

C. $20x + 1.40 \leq 20$

D. $1.29x + 1.40 \leq 20$

Write and solve the inequalities for the scenarios below.

1. **+** The charge to rent a car for a day is $16. There is an additional charge of $0.12 per mile. What is the **greatest** number of miles that a rented car can be driven in a day if the total bill is to be less than $40?

A. 149 miles $\quad M = \text{\# of miles}$

C. 190 miles

B. 160 miles

D. 199 miles

$.12x + 16 < 40$
$\quad -16 \; -16$
$\quad\overline{}$
$.12x < 24$
$\overline{.12} \quad \overline{.12}$
$x < 200$

2.) The cost to print a book is $54. The paper is an additional charge of $0.05 per page. What is the **greatest** number of pages that a book can be printed if the total bill is to be less than $60?

A.   1200 pages

B.   120 pages

C. 60 pages

D. 1080 pages

$p = pages$

$.05p + 54 < 60$

$-54 \quad -54$

$$\frac{.05p}{.05} < \frac{6}{.05}$$

$p < 120$

3.) Mrs. Smith wrote "Eight less than three times a number is greater than fifteen" on the board. If x represents the number, which inequality is a correct translation of this statement?

a) $3x - 8 > 15$

$3x - 8 > 15$

b) $3x - 8 < 15$

c) $8 - 3x > 15$

d) $8 - 3x < 15$

4.) Joan needed $100 to buy a graphing calculator for her math class. Her neighbor will pay her $5 per hour to babysit and her father gave her $10 for cleaning her room. What is the minimum amount of hours she will need to babysit in order for her to buy her calculator?

$$5h + 10 \geq 100$$
$$-10 -10$$
$$\frac{5h \geq 90}{5 5}$$

$h \geq 18$

18 hours

5.) A school club sells candy bars for a fundraiser. C
If the club makes a profit of 25¢ on each candy bar and
spends $25 on advertising, how many candy bars must
be sold to make a profit of **at least** $100?

$$C = \text{candy bars}$$

$$500 \text{ candy bars}$$

$$.25c - 25 \geq 100$$
$$ +25 + 25$$
$$\frac{.25c}{.25} \geq \frac{125}{.25}$$
$$C \geq 500$$