

Name: \_\_\_\_\_ Date: HW #12

In 1 - 3, write the word sentence as an inequality.

1. A number  $y$  plus 2 is greater than -5  
 $y + 2 > -5$

2. A number  $s$  minus 2.4 is at least 8.  
 $s - 2.4 \geq 8$

3. You plan to study for at least 1.5 hours for a geography test. (You can use any variable)  
 $x \geq 1.5$

4. **MULTIPLE CHOICE:** The height of a truck on an expressway must be at most 8 feet tall. Which inequality represents this situation if  $t$  is the height of a truck?
- (A)  $t > 8$       (B)  $t \leq 8$       (C)  $t < 8$       (D)  $t \geq 8$

For each word problem below, (i) define the variable, (ii) write the inequality, (iii) solve the inequality, (iv) answer the question with a sentence.

5. The sum of three consecutive integers is greater than 93. What are the smallest values for the three integers?

31	$x$	= 1 <sup>st</sup> con. int	$x + x + 1 + x + 2 > 93$
32	$x + 1$	= 2 <sup>nd</sup> con. int	$3x + 3 > 93$
33	$x + 2$	= 3 <sup>rd</sup> con. int	$3x > 90$

$x > 30$

Round...  
 6. A taxi charges a flat rate of \$1.75 plus an additional \$0.65 per mile. If Erica has at most \$10 to spend on the cab ride, how far could she travel?  $m = \#$  of miles

$$\begin{array}{r}
 0.65m + 1.75 \leq 10.00 \\
 -1.75 \quad -1.75 \\
 \hline
 0.65m \leq 8.25 \\
 \frac{0.65m}{0.65} \leq \frac{8.25}{0.65}
 \end{array}$$

$m \leq 12.7, \dots$   
 She can travel 12 miles

7. You want to rent a limousine for a trip into the city. The limousine costs \$700 for the night and \$0.15 per mile. You have only \$750 to spend. How many miles can the limousine travel?

$m = \#$  of miles

$$\begin{array}{r}
 0.15m + 700 \leq 750 \\
 -700 \quad -700 \\
 \hline
 0.15m \leq 50 \\
 \frac{0.15m}{0.15} \leq \frac{50}{0.15}
 \end{array}$$

$m \leq 333.\bar{3}$

The limo can travel 333 miles