Activity 6: Too Fast! (Fill-in all the blanks and solutions!)

Directions: Solve each inequality. To solve the riddle below, write each variable in the blank above its answer.

1. I + 8 ≤ 6 (I <= -2)
2. V - 6 > 8 V >
3. N - (-3) < 20 N <
4. 3U > 69 U >
5. -13S < -195 S >
6. A ÷ 7 ≥ -112 A >=
7. 17M ≥ -102 M >=
8. -13E ≤ -91 E >=
9. B ÷ -14 < -11 B >
10. R ÷ -3 ≤ 5 R >=
11. 8T ≤ -120 T <=
12. H ÷ 21 > -12 H >
13. 22C ≥ -352 C >=

Question: What caused the elderly man to walk so fast?

I						
≤-2	≤-15		≥-6	>23	>15	≤-15

>-252	≥-784	>14	≥7		>154	≥7	≥7	<17

≤-15	≥-252	≥7

				I					
>-252	>23	≥-15	≥-15	≤-2	—	≥-16	≥-784	<17	≥7

❑ Addition and Subtraction Inequalities

Inequalities are similar to equations in the way they are solved. However, there may be more than one answer to make an inequality sentence correct.

Example: $f + 5 < 12$

$-5 \quad -5$

$f \quad < 7$

Example: $t - 16 \geq 21$

$+16 \quad +16$

$t \quad \geq 37$

❑ Multiplication and Division Inequalities

When solving multiplication and division inequalities involving negatives, there are some special rules to remember. The most important rule is, if you multiply or divide by a negative number (if there is a negative number in the step), the inequality sign must reverse its direction.

Example: $m \div 11 \leq -2$

$x\,11 \quad x\,11$ Positive in step

$m \leq -22$ Sign does not reverse

Example: $g \times 3 > -24$

$\div 3 \quad \div 3$ Positive in step

$g \quad > \quad -8$ Sign does not reverse

Example: $m \div (-11) \leq 2$

$x\,-11 \quad x\,-11$ Negative in step

$m \quad \geq -22$ Sign must reverse

Example: $g \times (-3) > -24$

$\div -3 \quad \div -3$ Negative in step

$g \quad < \quad 8$ Sign must reverse