DO NOW: Let's talk language first!!

Put the correct word on the lines provided:

PRODUCT  SUM  DIFFERENCE  SIMPLIFY

Standard form: **Simplify**

Answer to an addition problem: **Sum**

Answer to a subtraction problem: **Difference**

Answer to a multiplication problem: **Product**

Some tips as you work through this packet and review for the upcoming test:

- Please read carefully! Some questions will be adding and subtracting linear expressions. Be sure to read the question and do what is being asked!

- Remember when you are SETTING up the problem because it has been given in WORD format, you must put ( ) around each expression. This makes a huge difference in the end result when it is a **Subtraction** problem

- When simplifying do the "double" check!
  1. Look at the terms that have negatives. Double check your integer rules!! Most of the mistakes made will be with negative numbers.
  2. Remember that a -( ) means that you must distribute a -1.

- Ok, now take a breath and let's get started!!! You got this!!
STATION 1

Simplify:
1) \(-12x + 4y - 6y + 10x - 25\)
   \(-2x - 2y - 25\)

2) \(5x - 2(x - 12)\)
   \(
   \begin{align*}
   5x - 2x + 24 &= 3x + 24
   \end{align*}
   \)

3) \(18.5 + 0.5(3.2x - 1.2)\)
   \(18.5 + 1.6x - 0.6\)
   \(17.9 + 1.6x\)

4) \(10f + 3 + 5f \cdot f\)
   \(9f + 8\)

5) Find the sum of \(-2x + 4\) and \(-6x - 12\)
   \((-2x + 4) + (-6x - 12)\)
   \(-2x + 4 + 6x - 12\)
   \(-8x - 8\)

6) Find the sum of \(3c\) and \(2(4c - 3)\)
   \(3c + 2(4c - 3)\)
   \(3c + 8c - 6\)
   \(11c - 6\)
1) Simplify $3 - (4r + 2)\quad 2) \text{Simplify} \quad (2f + 13) - (4f - 12)$

$$
\frac{3 - 4r - 2}{1 - 4r} \quad \frac{2f + 13 - 4f + 12}{-2f + 25}
$$

3) Find the difference of $-2x + 4$ and $-6x - 12$

$$
(-2f + 4) - 1(-6x - 12)\quad \frac{-2f + 4 + 6x + 12}{4x + 16}
$$

4) Simplify: $4r + 2 - (12 - r)$

$$
\frac{4r + 2 - 12 + r}{5r - 10}
$$

5) $\frac{1}{4}(12x - 8) - 3x$

$$
\frac{3x - 2 - 3x}{-2}
$$

6) Subtract $3c + 2$ from $12c + 12$

$$
\frac{(12c + 12) - (3c + 2)}{12c + 12 - 3c - 2} \quad 9c + 10$$
1) John scored \( x + 2 \) goals in his first hockey game and \( 3x - 1 \) in his second hockey game. How many total goals did he score in the games he has played?

\[
\begin{align*}
\text{add} & \\
(x+2) + (3x-1) & \\
\underline{\text{subtract}} & \\
4x + 1 &
\end{align*}
\]

2) The area of a parallelogram is \( x + 4 \) and the area of a larger trapezoid is \( 5x - 7 \). What is the difference in the areas?

\[
\begin{align*}
\text{subtract} & \\
(x+4) - (5x-7) & \\
\underline{\text{subtract}} & \\
4x + 11 &
\end{align*}
\]

3) The table below shows you the cost of a dozen donuts and a cup of coffee at a local bakery. How much more does the donuts cost than a cup of coffee?

<table>
<thead>
<tr>
<th>Item</th>
<th>Dozen Donuts</th>
<th>Cup of Coffee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost($)</td>
<td>( 2x + 1.50 )</td>
<td>( x + 0.25 )</td>
</tr>
</tbody>
</table>

\[
\begin{align*}
\text{subtract} & \\
(2x+1.50) - (x+1.25) & \\
\underline{\text{subtract}} & \\
x + 1.25 &
\end{align*}
\]
4. Below is a diagram of a parking lot at the new Walmart in Riverhead.

\[\begin{align*}
20x + 15 & \quad \text{20x + 15 is the length} \\
10x & \quad \text{10x is the width}
\end{align*}\]

A) Write a simplified expression that represents the perimeter of the parking lot.

\[2(10x) + 2(20x+15)\]
\[= 20x + 40x + 30\]
\[= 60x + 30\]

B) How much bigger is the length than the width?

\[20x + 15 - (10x)\]
\[= 10x + 15\]

C) What is half of the perimeter?

\[\frac{1}{2}(60x+30)\]
\[= 30x + 15\]

D) If they need to reserve 1/4 of the area of the parking lot for handicapped parking spots, what part of the parking lot is for handicapped parking?

\[\frac{1}{4}(60x+30)\]
\[= 15x + 7.5\]