Simplifying Expressions Opener

Solve:

1. $-5 + (-6)(3) - 10$
   \[ -5 + (-18) - 10 \]
   \[ -23 - 10 \]
   \[ -23 + (-10) = -33 \]

2. $\frac{-8 + 12}{-21}$
   \[ \frac{4}{-21} \cdot \frac{7}{7} = \frac{1}{-3} \]

3. A pair of boots regularly priced at $129.99 was marked down to $35.99 during the end of season sale. What is the percent of discount? 
   \[ \frac{.\% \times \text{OP} = \text{NP}}{\text{NP}} \]
   \[ \frac{.\% \times 129.99 = 35.99}{129.99} \]
   \[ .\% = 28\% \]

4. What do you think an “expression” is in math?
Learning Target

I can simplify an expression by combining like terms.

An expression is a combination of numbers and/or variables separated by +/−.

Parts of an Expression:

<table>
<thead>
<tr>
<th>TERMS</th>
<th>CONSTANT</th>
<th>COEFFICIENT</th>
<th>LIKE TERMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numbers and/or variables separated by +/− 2x, 3y, −4x², 10</td>
<td>10</td>
<td>2, 3, −4, 10</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Combine Like Terms

Collect your like terms: (move terms below to group by like variable)

\[-2x + 3y + 4x - 4x - 9y + 2x^2\]

Mathematically:

\[5Z + 3L \neq 8ZL\]

Two different variables here.

Same variables here.
Add coefficients.
Simplify each expression below.

\[3x^2 + 6y + 7y - 3x^2\]
\[3x + 2y - 2x + 5y\]
\[13y\]
\[\frac{7y + x}{x + 7y}\]
\[\frac{3x - 2x}{2y + 5y}\]
\[14a^2 - 3b^2 + 4b + 10a^2\]
\[-3x + 5x - 2y + 5x\]
\[7a^2 - 3b^2 + 4b\]
\[2a + 5x\]
\[14a^2 - 3b^2 + 4b\]
\[-3x + 5x - 2y + 5x\]
\[7x - 2y\]

Q.5

Simplify:

\[6x + 9xy - 4y + 2z\]

Options:

A. 6x + 9xy - 4y + 2z

B. -5xy - 2z

C. 11xy + 2z

D. 13xyz
Summary

On the back of your opener with your table....

1. Write one PAIR of terms that are considered like

2. Write one PAIR of terms that are NOT considered like