For questions 1-6 simplify each expression

1) \(2x + 3 - 4x - 1\)
\[-2x + 2\]

2) \(4(2x - 1) + 6\)
\[8x + 2\]

3) \(6 - 3(2x - 1)\)
\[-6x + 9\]

4) \(-3(x + 1) - (x - 1)\)
\[-4x - 2\]

5) \(9x - 3(x - 3)\)
\[6x + 9\]

6) \(-4x + 3(x - 1) + 3(2 + 2x)\)
\[5x + 2\]

Solve each of the following equations

7) \(3 = 1x - 9\)
\[x = 3\]

8) \(-2 = 2 - x\)
\[x = 4\]

9) \(9x = 5 - 2(10)\)
\[x = -3\]

10) \(-4x - 5 = 79\)
\[x = -21\]
<table>
<thead>
<tr>
<th></th>
<th>Equation</th>
<th>Solution</th>
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</thead>
<tbody>
<tr>
<td>11</td>
<td>(-122x + 41 = -203)</td>
<td>(x = 2)</td>
</tr>
<tr>
<td>12</td>
<td>(7x - 7 = 49)</td>
<td>(x = 8)</td>
</tr>
<tr>
<td></td>
<td><strong>Simplify each equation, then solve</strong></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>(3(2x - 2) = 24)</td>
<td>(x = 5)</td>
</tr>
<tr>
<td>14</td>
<td>(2x + 3x - 1 = -24)</td>
<td>(x = -4.6) or (-\frac{23}{5})</td>
</tr>
<tr>
<td>15</td>
<td>(4(x + 1) + 2 = 30)</td>
<td>(x = 6)</td>
</tr>
<tr>
<td>16</td>
<td>(-3 = 2(x - 2) - 1)</td>
<td>(x = 1)</td>
</tr>
<tr>
<td>17</td>
<td>(-9 = 2(x - 1) + 5x)</td>
<td>(x = -1)</td>
</tr>
<tr>
<td>18</td>
<td>(2(x - 1) - 3(x + 1) = -1)</td>
<td>(x = -4)</td>
</tr>
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</table>
Do Now: Write the process for solving multi-step equations

- To solve a multi-step equation you must first **Simplify**

- To simplify first use the **distributive property**

You will use this to get rid of **parenthesis**

- After you use the distributive property you can **Combine Like Terms**

- Finally solve the **Two Step** Equation

Use the process to solve the following equation:

\[-2(3x + 5) + 5(2x + 3) = 29\]

\[-6x - 10 + 10x + 15 = 29\]

\[4x + 5 = 29\]

\[-5 = -5\]

\[\frac{4x}{4} = \frac{24}{4}\]

\[x = 6\]
Partner A

1) $6(-2x + 6) = 96$

$-12x + 36 = 96$

\[
\begin{array}{c|c}
-36 & -36 \\
\hline
-12x & 60 \\
-12 & -12 \\
\hline
x = -5 & \\
\end{array}
\]

2) $7x + 4(3x + 14) = 172$

Partner B

1) $6(-2x + 6) = 96$

2) $7x + 4(3x + 14) = 172$
<table>
<thead>
<tr>
<th>Partner A</th>
<th>Partner B</th>
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<tbody>
<tr>
<td>3) $149 = -4x - 3(-7x - 10)$</td>
<td>3) $-2a + 5(3a + 10) = -54$</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>4) $2b + 4(-7b - 9) = 120$</td>
<td>4) $120 = -4c + 4(4c + 3)$</td>
</tr>
</tbody>
</table>
5) $5d + 3(d - 3) = -97$

6) $73 = 5x + 7(2x - 14)$

7) $3(x - 2) + 4(2x - 4) = 99$

8) $2x - 2(5x + 2) - 5 = 47$
Exit Ticket
Solve the following equation

3x + 4(2 - 3x) = 89