Hello best students ever!

1. Get your homework out!!!
2. Grab a sheet from the black table.
3. Do your warm-up!
finish your warm-up! 😊
General Observations

- When we add **TWO POSITIVE** #s together, **answer is positive**

- When we add **TWO NEGATIVE** #s together, **answer is negative**
  
  \[-2 + (-6) = -8\]

- When we add **TWO INTEGERS WITH DIFFERENT SIGNS** together, **answer has the sign of the larger digit**
  
  \[-6 + 2 = -4\]

Try these! Use our rules for addition!

\[
\begin{align*}
32 + (-12) & = 20 \\
-14 + (-26) & = -40 \\
18 + 45 & = 63 \\
-62 + 31 & = -31
\end{align*}
\]

Adding Three or More Integers

\[
\begin{align*}
6 + (-11) + 11 & = 6 \\
7 + (-13) + 4 & = -2 \\
28 + (-35) + 4 & = -3 \\
(-13) + 23 + (-7) + (-3) & = 0 \\
(-18) + 37 + (-17) + 18 & = 20
\end{align*}
\]

**Hint:** Reorder numbers! Look for numbers that are easiest to add together.

1. Opposite
2. Same Sign
Subtracting Integers

Modeling with Number Lines

- When we subtract a positive number, we move to the right on the number line.
- When we subtract a negative number, we move to the left on the number line.

\[
\begin{array}{cc}
\text{Model } 5 + 3 &= 2 \\
-4 & \rightarrow 2 & 0 & \rightarrow 4 & \rightarrow 6 & \rightarrow 8 \\
\text{Model } -5 + 3 &= -8 \\
-8 & \rightarrow -6 & \rightarrow -4 & \rightarrow -2 & \rightarrow 0 & \rightarrow 1 \\
\end{array}
\]

\[
\begin{array}{cc}
\text{Model } 5 + 3 &= 8 \\
-2 & \rightarrow 0 & \rightarrow 2 & \rightarrow 4 & \rightarrow 6 & \rightarrow 8 \\
\text{Model } -5 + 3 &= -2 \\
-2 & \rightarrow 0 & \rightarrow 2 & \rightarrow 4 \\
\end{array}
\]

How are addition and subtraction of integers related?

Subtraction becomes addition.

Modeling with Chips

\[
\begin{array}{c}
\text{Model } 3 + 5 &= 8 \\
\text{Model } 3 + (-5) &= -8 \\
\text{Model } -3 + 5 &= 2 \\
\text{Model } -3 + (-5) &= -8 \\
\end{array}
\]

**KEY**
- O = Positive
- • = Negative
Rules to subtracting integers:
1) Change \(-(-)\) to +
2) Change \(-n\) to \(+(\textit{\text{-n}})\)

Try these!
1) 16 - 28
2) -14 - 12
3) 18 - (-35)
4) -62 - 36
5) 7 - 11 + 6
6) 7 + (-13) - 4
7) 28 + 35 - 14 - 35
8) -13 - 23 + (-7) - (-3)
## Multiplying & Dividing Integers

### Multiplying Two Positive Integers

<table>
<thead>
<tr>
<th>Multiplication Problem</th>
<th>Repeated Addition</th>
<th>Model</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>5•3</td>
<td>5 + 5 + 5 or 3 + 3 + 3 + 3</td>
<td>☐☐☐☐☐ or ☐☐☐☐☐ ☐☐☐☐☐</td>
<td>15</td>
</tr>
<tr>
<td>2•6</td>
<td>6+6 2+2+2+2</td>
<td>☐☐☐☐☐☐☐☐☐</td>
<td>12</td>
</tr>
<tr>
<td>3•4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Multiplying a Positive and a Negative Integer

<table>
<thead>
<tr>
<th>Multiplication Problem</th>
<th>Repeated Addition</th>
<th>Model</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>-5•3</td>
<td>-5+-5+-5 3+-3+-3 3+3</td>
<td>☐☐☐☐☐ ☐☐☐☐☐☐☐☐☐</td>
<td>-15</td>
</tr>
<tr>
<td>-2•6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3•-4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>