Bell Work

1) 3 - 5 =
2) -3 - 5 =
3) 3 - -5 =
4) -3 - -5 =

Bell Work
It costs $15 to enter the amusement park. You then must pay $2 each time you enjoy a ride. How much would it cost for the following number of rides?

<table>
<thead>
<tr>
<th># of rides</th>
<th>total cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>21</td>
</tr>
</tbody>
</table>

Learning Goals:

2.1) I can identify and graph relations and functions.

2.2) I can write and interpret direct variation equations.

Chapter 2: Functions, Equations, & Graphs
Section 2.1 - Relations and Functions

Relation: A set of pairs of input and output values. A relation can be represented in 4 different ways.

Use the data from the bell work and represent it in the following 4 ways:

Ordered Pair Mapping Diagram

Table of Values Graph

Function: A relation in which each element of the domain corresponds with exactly one element of the range.

If an x value repeats it is not a function!

Function or Not a Function:
1) {(4, -1), (6, 6), (1, -1), (6, 6), (4, 1)}
2) {(-7, 14), (9, -7), (14, 7), (7, 14)}

Domain: the set of inputs
also called the x-coordinates

Range: the set of outputs
also called the y-coordinates

Use the relation from the bell work. What are the domain and the range of the relation?
For the bell work problem, \( f(x) = 2x + 15 \), what are the outputs for the inputs, 10, 12, and 15 rides.

\[
\begin{align*}
\text{Function Rule} & \quad \text{an equation that produces output values from an input value.} \\
& \quad y = 2r + 15 \\
\text{Function notation} & \quad \text{replace the "y" with "f(x)" read as "f of x"} \\
& \quad f(x) = 2x + 15 \\
\text{Function Rule written in function notation} & \quad \text{"f of 4" is the output when 4 is the input.} \\
& \quad f(4) = 2(4) + 15
\end{align*}
\]

\[\text{Homework} \quad \text{page 64 1,4,10,17,25,29,32,33}\]