Birthday Party Task
Baskin Robbins hosts birthday parties. To have the party at Baskin Robbins, it costs a flat-fee of $10. Each party-goer receives a single-scoop ice cream cones at a cost of $2 each.

1. Write a function that can be used to determine the total cost (y) with respect to any number of cones (x) that is bought. Explain what each number and variable represents in your function.

\[
x = \# \text{ of cones} \quad y = 2x + 10
\]

\[
y = \text{total cost}
\]

\[
2 = \text{cost per cone} - \text{variable cost}
\]

\[
10 = \text{fee for party} - \text{fixed cost}
\]

2. Sketch a graph that models the problem situation.

\[
y = 2x + 10
\]

y-int: (0,10)

slope: \( \frac{2}{1} \) or \( \frac{-2}{-1} \)

a line represents all of the values that make the function true (possible solutions)

a line is not appropriate to represent the problem situation because the domain (x-values/input) are only whole numbers
Baskin Robbins hosts birthday parties. To have the party at Baskin Robbins, it costs a flat-fee of $10. Each party-goer receives a single-scoop ice cream cones at a cost of $2 each.

3. What is the domain in the context of the problem situation?

*Rewrite the question to make more sense...*  
*What are the x-values/inputs in the scenario?*

**Domain of the function ≠ Domain of scenario**

Think of 2 words when you are asked this question.  
**DECIMALS & NEGATIVES**

x-values are represented by # of cones,  
so the domain of the problem situation is  
**WHOLE NUMBERS**

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**Chart for Domain of a Problem Situation**

<table>
<thead>
<tr>
<th>Negatives?</th>
<th>Decimals?</th>
<th>Domain for the Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Real Numbers</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Integers</td>
</tr>
<tr>
<td>No</td>
<td>Yes</td>
<td>Positive Numbers</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>Whole Numbers</td>
</tr>
</tbody>
</table>