## Lesson 5: Function Representations

* Let’s examine different representations of functions.

### 5.1: Notice and Wonder: Representing Functions

What do you notice? What do you wonder?

$f\left(x\right)=\frac{2}{3}x−1$



| $x$ | $y$ |
| --- | --- |
| -1 | $-\frac{5}{3}$ |
| 0 | -1 |
| 1 | $-\frac{1}{3}$ |
| 2 | $\frac{1}{3}$ |
| 3 | 1 |

### 5.2: A Seat at the Tables

Use the equations to complete the tables.

1. $y=3x−2$

| * $x$
 | * $y$
 |
| --- | --- |
| * 1
 | *
 |
| * 3
 | *
 |
| * -2
 | *
 |

1. $y=5−2x$

| * $x$
 | * $y$
 |
| --- | --- |
| * 0
 | *
 |
| * 3
 | *
 |
| * 5
 | *
 |

*
1. $y=\frac{1}{2}x+2$

| * $x$
 | * $y$
 |
| --- | --- |
| * -4
 | *
 |
| * 3
 | *
 |
| * 6
 | *
 |

*

| 1. $x$
 | * $y=2x−10$
 |
| --- | --- |
| * 3
 | *
 |
| * 7
 | *
 |
| * -8
 | *
 |

*

### 5.3: Function Finder

1. Use the values in the table to graph a possible function that would have the values in the table.

| * 1. $x$
 | * + $y$
 |
| --- | --- |
| * + 1
 | * + 3
 |
| * + 2
 | * + 5
 |
| * + 3
 | * + 7
 |
| * + 5
 | * + 11
 |

* + 

| * 1. $x$
 | * + $y$
 |
| --- | --- |
| * + -2
 | * + 0
 |
| * + 0
 | * + 1
 |
| * + 2
 | * + 2
 |
| * + 4
 | * + 3
 |

* + 

| * 1. $x$
 | * + $y$
 |
| --- | --- |
| * + -2
 | * + 14
 |
| * + -1
 | * + 12
 |
| * + 1
 | * + 8
 |
| * + 2
 | * + 6
 |

* + 
1. For each of the tables and graphs, write a linear equation (like $y=ax+b$) so that the table can be created from the equation.
2. Invent your own linear equation. Then, create a table or graph, including at least 4 points, to trade with your partner. After getting your partner’s table or graph, guess the equation they invented.



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