

Task 2.5: Making My Point

Part I: Recall how to write the explicit equation given a table.

$$\frac{40}{16} = 2.5$$

x	y
0	-4
1	1
2	6
3	11
4	16

↓ +5

f(n)

Explicit Equation: $y = 5n - 4$

x	y
1	16
2	40
3	100
4	250
5	625

Explicit Equation: $y = 16(2.5)^{n-1}$

Part II: What if the table doesn't start at 0 or 1? Write the explicit equations for the tables:

x	y	Expanded
2	18	18
3	13	18 - 5
4	8	18 - 5 - 5
5	3	

x	y	Expanded
4	-5	
5	-10	
6	-15	
7	-20	

Explicit Equation:

$$y = -5(x - 2) + 18$$

Explicit Equation:

$$y = -5(x - 5) - 10$$

Part III: Convert the equations in Part II to slope-intercept ($y = mx + b$) form.

$$y = -5x + 10 + 18$$

$$y = -5x + 28$$

$$y = -5x + 25 - 10$$

$$y = -5x + 15$$

Part IV: What if the table doesn't start at 0 or 1... and it starts at a NEGATIVE number?

x	y
-5	6
-4	15
-3	24
-2	33

↓ +9
↓ +9

x	y
-2	10
-1	8
0	6
1	4

↓ -2
↓ -2

x	y
-7	20
-6	23
-5	26
-4	29

*

↓ +3

Explicit Equation:

$$y = 9(x + 5) + 6$$

Explicit Equation:

$$y = -2x + 6$$

Explicit Equation:

$$y = 3(x + 7) + 20$$

POINT-SLOPE FORM:

$$y = m(x - x_1) + y_1$$

$$f(n) = d(n - 1) + a$$