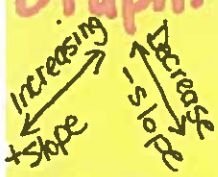
How to Recognize

Graph:



- Straight Line

Equation:

$y = mx + b$

Table:

adding or subtracting constant amt.

How to Write the Equa

$y = mx + b$

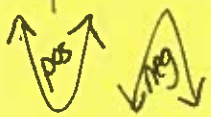
↑ slope ↑ y-int (0, #)

x	y	
0	7	← y-int
1	4	> -3
2	1	> -3

$y = -3x + 7$

m b

- parabola



$y = ax^2 + bx + c$

- Secondary pattern when y is constant

$y = ax^2 + bx + c$

↑ secondary pattern ÷2 ↑ y-int (0, #)

x	y		
0	10	← y-int	$a = 6/2 = 3$
1	21	> +11	$b = ?$
2	38	> +17 > +6	$c = 10$
3	61	> +23 > +6	
4	90	> +29 > +6	

Plug in (x, y) to solve for b (1

$y = 3(1)^2 + b(1) + 10$

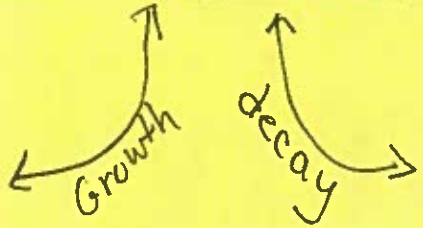
$21 = 3 + b + 10$

$21 = 13 + b$

$-13 \quad -13$

$8 = b$

$y = 3x^2 + 8x + 10$



$y = ab^x$ ← variable

↑ y-int (0, #) ← multiplying pattern (factor)

Multiplying Pattern

x	y	
0	9	← y-int
1	38.7	
2	166.41	

$y = a(b)^x$

↑ y-int ↑ factor

$y = 9(4.3)^x$

factor:

$\frac{38.7}{9} = 4.3$ $\frac{166.41}{38.7} = 4.3$