

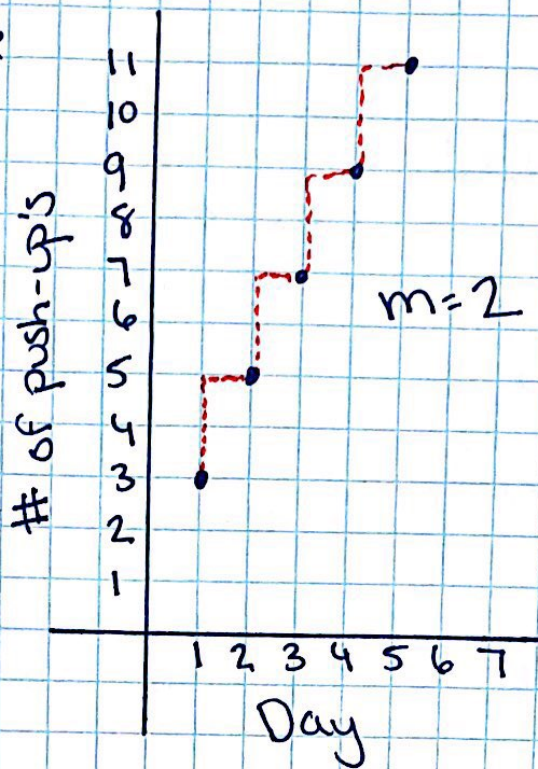
1.4 Scott's Push-Ups

Day	Push-Ups
1	3
2	5
3	7
4	9
5	11
6	13
7	15
8	17
9	19
10	21

x y
 $x+1$ ↓
 $x+1$ ↓
 $x+1$ ↓

$+2$ ↓
 $+2$ ↓
 $+2$ ↓

$d=2$



Arithmetic
 * Creates a Line
 * Linear

Recursive: $f(1) = 3$
 $f(n) = f(n-1) + 2$

Explicit: $f(n) = 3 + 2(n-1)$

Recursive	Explicit
$f(0) = \#$ or $f(1) = \#$ <i>where does it start?</i>	$f(n) = f(0) + dn$ <i>start</i>
$f(n) = f(n-1) + d$ ↑ previous term <i>how you find the next term.</i>	$f(n) = f(1) + d(n-1)$ <i>start</i>

1) 3, 8, 13, 18, 23
+5

$$d = 8 - 3 = 5$$

Recursive: $f(1) = 3$
 $f(n) = f(n-1) + 5$

Explicit: $f(n) = 3 + 5(n-1)$

2) 11, 9, 7, 5, 3
-2

$$d = 9 - 11 = -2$$

Recursive: $f(1) = 11$
 $f(n) = f(n-1) - 2$

Explicit: $f(n) = 11 - 2(n-1)$

3) 3, 1.5, 0, -1.5, -3
-1.5

$$d = 1.5 - 3 = -1.5$$

Recursive: $f(1) = 3$
 $f(n) = f(n-1) - 1.5$

Explicit: $f(n) = 3 - 1.5(n-1)$