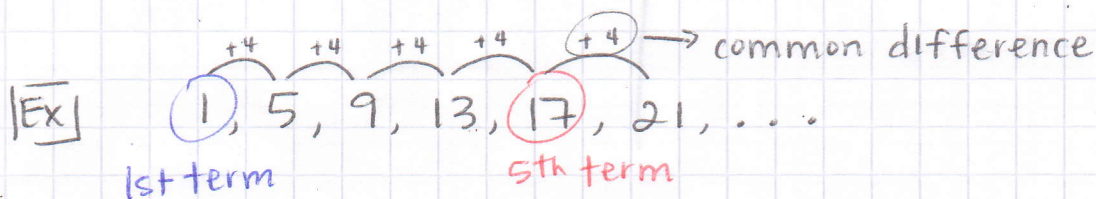


1.1a Notes - Arithmetic Sequences

(+) or (-) the same amount between each term

A list of numbers



You can write 2 different equations for this sequence:

① Explicit

You can get whatever term value you need without any previous terms

min	dots
t	$f(t)$
0	$f(0) = 1$
1	$f(1) = 5$
2	$f(2) = 9$
3	$f(3) = 13$
4	$f(4) = 17$

$$f(t) = 4t + 1$$

$$f(7) = 4(7) + 1 = 29$$

How many dots at 7 min?

② Recursive

You need the previous term to get the term value you want

min	dots
t	$f(t)$
0	$f(0) = 1$
1	$f(1) = f(0) + 4$
2	$f(2) = f(1) + 4$
3	$f(3) = f(2) + 4$
4	$f(4) = f(3) + 4$

$$f(t) = \underbrace{f(t-1)}_{\text{previous term}} + 4$$

$$\begin{aligned} f(7) &= f(6) + 4 \\ &= 25 + 4 \\ &= 29 \end{aligned}$$

1.1b Notes - Using Explicit Formulas

[Ex] $f(x) = 3x + 2$

$$f(4) = 3(4) + 2$$

$$= 12 + 2$$

$$= 14$$

x	y
4	14

$$p + (f-1)d = (f)z$$

$$p + (d)z = (f)z$$

$$f(z) = (f)z + 1$$

$$(f)z = 1 + (f)z - (f)z$$