

1.9 Arithmetic Means

Date: _____

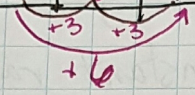
Learning Target:

Find the missing numbers in an arithmetic sequence

Arithmetic Sequences:

Table 1

x	1	2	3
y	5	8	11



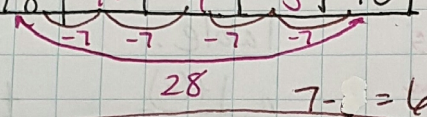
From 5 to 11 is a distance of 6

You have to add the same number twice to get from 5 to 11.

$\frac{6}{2} = 3$, so add 3 as the constant difference

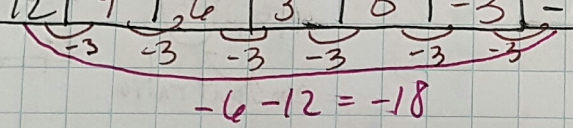
Table 2

x	1	2	3	4	5
y	18	11	4	-3	-10



$$\frac{-10 - 18 = -28}{4 \text{ jumps}} = -7$$

x	1	2	3	4	5	6	7
y	12	9	6	3	0	-3	-6



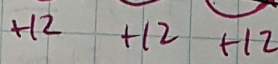
$$\frac{-18}{6} = -3$$

Method: Subtract the y values and then divide by the # of jumps (or difference of x's)

Method 2: Slope formula

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

	(x_1, y_1)		(x_2, y_2)
x	1	2	4
y	50	62	86



$$m = \frac{86 - 50}{4 - 1} = \frac{36}{3} = 12$$