

11/9 Algebra I-Downing

Bellwork - write an equation for the line

1. $(2, 5)$ $(-3, 8)$ $-5(-3, 8) + 3$ $m = -\frac{3}{5}$ or $-\frac{3}{5}$

$$y = -\frac{3}{5}x$$

$$5 = -\frac{3}{5}(2) + b$$

$$5 = -\frac{6}{5} + b$$

$$+ \frac{6}{5} \quad + \frac{6}{5}$$

$$-b$$

2. $(4, 7)$ parallel to $y - \frac{1}{2}x = 9$

$$y = \frac{1}{2}x + 9$$

$$m = \frac{1}{2}$$

$$7 = 4\left(\frac{1}{2}\right) + b$$

$$7 = 2 + b$$

$$-2 \quad -2$$

$$5 = b$$

4.6: Arithmetic Sequences

A sequence is arithmetic if the difference between each term is constant

Ex) Determine if the sequence is arithmetic. If yes, find the common difference (d)

1) $37, 41, 45, 49, \dots$

$$+4 \quad +4 \quad +4$$

yes. $d = 4$

difference (d)

0 term would be in front of your 1st term

0 term would be 33

2) $-39, -29, -19, -9, \dots$

$$+10 \quad +10 \quad +10$$

yes, $d = 10$

5th term is 1

0 term is -49

3) $1, 3, 9, 27, \dots \rightarrow$ No

Equation for Arithmetic Sequence $\rightarrow a_n = dn + b$

Very similar to $f(x) = mx + b$

Term	a
0	-31
1	-29 = a_1
2	-27 = a_2
3	-25 = a_3
4	-23 = a_4

$$a_n = 2n - 31$$

Find the 50th term

$$a_{50} = 2(50) - 31 = 69$$

common difference

"0" term

Write the equation for the arithmetic sequence

Ex) $a_1 = -5; d = 10$

$a_n = dn + b$

$a_n = 10n + 15$

$$\begin{array}{r} \textcircled{0} - 15 \\ 1 \quad - 5 \quad + 10 \\ 2 \quad 5 \quad + 10 \\ 3 \quad 15 \quad + 10 \end{array}$$

Ex) $-17, -8, 1, 10$

$a_n = 9n - 26$

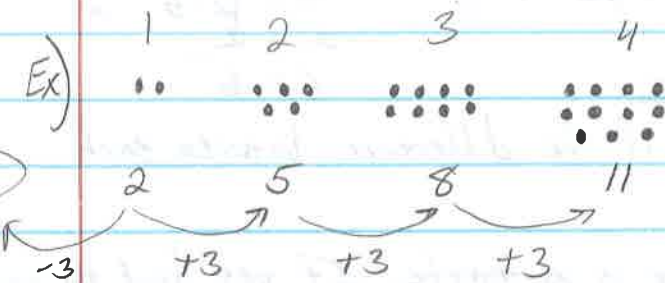
-17
 -9
 -26

★ PC Tues 11/13 Test Next Week

term

Ex)

-1



$a_n = 3n - 1$

HW Quiz

HW- WS- Arithmetic Sequences