Algebra – Sequences

Term to term rules

Adding

15, 21, 27, 33 …..

Add 6 each time

The next term is 39

Subtracting

43, 39, 35, 31 …..

Subtract 4 each time

The next term is 27

Multiplying

6, 12, 24, 48 …..

Divide by 2 each time

The next term is 96

Dividing

500, 100, 20, 4 …..

Divide by 5 each time

The next term is 0.8

Using the nth term rule to generate a sequence

n = 1, 2, 3, 4, 5

Find the first 5 terms if the rule is 3n – 2

$1 \times 3 - 2 = 1$
$2 \times 3 - 2 = 4$
$3 \times 3 - 2 = 7$
$4 \times 3 - 2 = 10$
$5 \times 3 - 2 = 13$

The first five terms are 1, 4, 7, 10 and 13

Find the 100th term if the rule is 3n – 2

$100 \times 3 - 2 = 298$

The 100th term is 298

Find the first 5 terms if the rule is 50 – 7n

$50 - 1 \times 7 = 43$
$50 - 2 \times 7 = 37$
$50 - 3 \times 7 = 30$
$50 - 4 \times 7 = 23$
$50 - 5 \times 7 = 16$

The first five terms are 43, 37, 30, 23 and 16

Find the 10th term if the rule is 50 – 7n

$50 - 10 \times 7 = -20$

The 10th term is – 20