

example

write down a rule for finding the n^{th} term in the following sequence ...

$$n: 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad \dots \quad 12$$

$$2n: 2 \quad 4 \quad 6 \quad 8 \quad 10 \quad \dots \quad 24$$

$$5, 7, 9, 11, 13, \dots, 27$$

\curvearrowleft_2

- first difference is 2 (so using $2n$)
- terms in sequence are 3 more than $2n$

$$n^{\text{th}} \text{ term rule : } 2n + 3$$

problem 1

write down a rule for finding the n^{th} term in the following sequence ...

$$n: 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad \dots \quad 20$$

$$\square n: 4 \quad 8 \quad 12 \quad 16 \quad 20 \quad \dots \quad \square$$

$$3, 7, 11, 15, 19, \dots, 79$$

\curvearrowleft_3

- first difference is \square (so using $\square n$)
- terms in sequence are 1 less than $\square n$

$$n^{\text{th}} \text{ term rule : } \square n - 1$$

problem 2

write down a rule for finding the n^{th} term in the following sequence ...

$$n: 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad \dots \quad 15$$

$$3n: 3 \quad 6 \quad 9 \quad 12 \quad 15 \quad \dots \quad 45$$

$$7, 10, 13, 16, 19, \dots, \square$$

\curvearrowleft_3

- first difference is 3 (so using $3n$)
- terms in sequence are \square than $3n$

$$n^{\text{th}} \text{ term rule : } 3n \square \square$$

problem 3

write down a rule for finding the n^{th} term in the following sequence ...

$$n: 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad \dots \quad 13$$

$$\square n: \square \quad \square \quad \square \quad \square \quad \square \quad \dots \quad \square$$

$$7, 12, 17, 22, 27, \dots, \square$$

\curvearrowleft_5

- first difference is \square (so using $\square n$)
- terms in sequence are \square than $\square n$

$$n^{\text{th}} \text{ term rule : } \square n \square \square$$

problem 4

write down a rule for finding the n^{th} term in the following sequence ...

$$n: 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad \dots \quad \square$$

$$\square n: \square \quad \square \quad \square \quad \square \quad \square \quad \dots \quad 43$$

$$1, 4, 7, 10, 13, \dots, \square$$

\curvearrowleft_3

- first difference is \square (so using $\square n$)
- terms in sequence are \square than $\square n$

$$n^{\text{th}} \text{ term rule : } \square n \square \square$$

problem 5

write down a rule for finding the n^{th} term in the following sequence ...

$$n: 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad \dots \quad \square$$

$$\square n: \square \quad \square \quad \square \quad \square \quad \square \quad \dots \quad \square$$

$$7, 9, 11, 13, 15, \dots, 91$$

\curvearrowleft_2

- first difference is \square (so using $\square n$)
- terms in sequence are \square than $\square n$

$$n^{\text{th}} \text{ term rule : } \square n \square \square$$