

Worksheet 2015-8 EB-00001(1)

(1) Complete the next 5 terms in each of the following sequences:

(a) $-11 ; -13 ; -15 ; \underline{-17 ; -19 ; -21 ; -23 ; -25} \quad (-2)$

(b) $3 ; -6 ; 12 ; -24 ; 48 ; \underline{-96 ; 192 ; -384 ; 768 ; -1536} \quad (x-2)$

(c) $2 ; 6 ; 12 ; 20 ; 30 ; \underline{42 ; 56 ; 72 ; 90 ; 110}$

(d) $7 ; -7 ; 7 ; -7 ; \underline{7 ; -7 ; 7 ; -7 ; 7} \quad (x-1)$

(e) $15 ; 27 ; 39 ; 51 ; 63 ; \underline{75 ; 87 ; 99 ; 111 ; 123} \quad (+12)$

(2) Consider the following sequence: $\frac{1}{2} ; 4 ; 7 ; 10 ; \dots$

(a) Complete the next three terms in the sequences.

$\underline{\frac{1}{2} ; 13 ; 16 ; 19}$

(b) Describe the pattern of the sequence in words.

$\underline{\text{Add } 3}$

(c) Write a general rule to describe the pattern in the sequence.

$\underline{T_n = 3n - 2 \text{ because } T_1 = 3(1) - 2 = 3 - 2 = 1}$

(d) What will the 100th term in the sequence be?

$\underline{T_{100} = 3(100) - 2}$
 $\underline{= 300 - 2 = 298}$

(3) Write the first 5 terms which is described in each of the following sentences:

(a) The first term of the sequence is 6. Each consecutive term is 4 less than the previous term.

$\underline{6 ; 2 ; -2 ; -6 ; -10}$

(b) The first term is -5, 7. Add 2, 1 each time to obtain the next term.

$\underline{-5 ; 7 ; -3 ; 6 ; -1 ; 5 ; 0 ; 6 ; 2 ; 7}$

(c) The first term is 5. Multiply with -2 to obtain the following term.

$\underline{5 ; -10 ; 20 ; -40 ; 80}$