Worksheet 2015-9ℰC-00001(1)

(1) Write the next five numbers in each sequence:
Also write the pattern in words:

(a) $-3\ ;\ -11\ ;\ -19\ ;\ -27\ ;$ _____

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(b) $5\ ;\ 8\ ;\ 11\ ;\ 14\ ;$ _____

_____

_____

(c) $98\,415\ ;\ 32\,805\ ;\ 10\,935\ ;\ 3\,645\ ;$ _____

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(d) $1\ ;\ 1\ ;\ 3\ ;\ 4\ ;\ 5\ ;\ 9\ ;\ 7\ ;\ 16\ ;\ 9\ ;$ _____

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(2) The general term for a sequence is $T_n = 5n + 3$.

(a) Determine the first four terms of the sequence.
(b) Determine the 85^{th} term of the sequence.
(c) Which term in the sequence is equal to 523?

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(3) Complete the following table and answer the questions:

(a)

Position in sequence	1	2	3	7	11		35
Term	-4	-7	-10			-85	

(b) Describe the pattern in words.

(c) Determine the general term of the second difference of the above sequence as $T_n =$ .....

(d) Determine the 100^{th} term of the sequence.

(4) Fill in the missing numbers for each sequence and determine the general term (T_n):

(a) _____ ; 6 ; 12 ; 24 ; _____ ; _____ ; _____ ; 384

(b) _____ ; _____ ; _____ ; _____ ; $5\frac{1}{2}$; $4\frac{3}{4}$; 4

(c) 136 ; _____ ; 142 ; _____ ; 148 ; _____ ; 154 ; _____