1. [10 *points*]

Find the general formula for each of the following sequences:

(a) $7, \quad 15, \quad 23, \quad 31, \quad 39, \quad 47, \ldots$

(b) $6, \quad -18, \quad 54, \quad -162, \quad 486, \quad -1458, \ldots$

(c) $13, \quad 14, \quad 13, \quad 10, \quad 5, \quad -2, \ldots$

(d) $4, \quad 5, \quad 14, \quad 37, \quad 80, \quad 149, \ldots$

2. [5 *points*]

Find the value(s) of x given that the following terms are consecutive terms of a sequence which is arithmetic (part (a)), geometric (part (b)):

(a) $10 - x, \quad x + 1, \quad 2x - 1$

(b) $3x, \quad x + 2, \quad x - 1$