ARITHMETIC SERIES

Write the nth partial sum in closed form, and use s_n to determine if the series converges.

1. $\sum_{k=1}^{\infty}(2k-1)$

2. $\sum_{k=1}^{\infty}(3k+2)$

3. An arithmetic series has first term a and common difference d.

a) Find the 3rd term a_3 and the 3rd partial sum s_3.

b) Find the 4th term a_4 and the 4th partial sum s_4.

c) Find the nth term a_n and the nth partial sum s_n.

d) For what values of d does the series converge?