Note that in this simple one dimensional case, the tensorial structure of the hydrodynamic Green's function (Oseen tensor) does not enter the calculations as all the forces and velocities are parallel to each other and to the position vectors. The swimming velocity of the whole object is the mean translational velocity, namely

$$V = \frac{1}{3}(v_1 + v_2 + v_3). \tag{5.24}$$

We are seeking to study autonomous net swimming, which requires the whole system to be force-free (i.e. there are no external forces acting on the spheres). This means that the above equations are subject to the constraint

$$F_1 + F_2 + F_3 = 0. \tag{5.25}$$