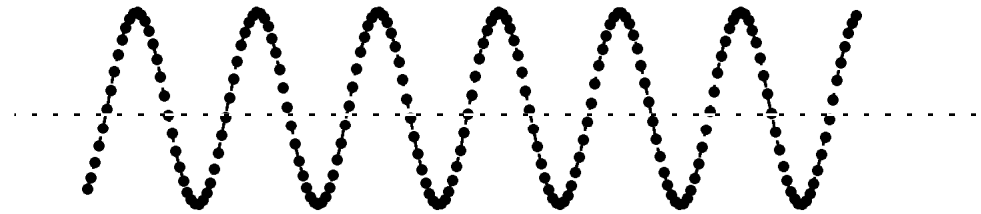


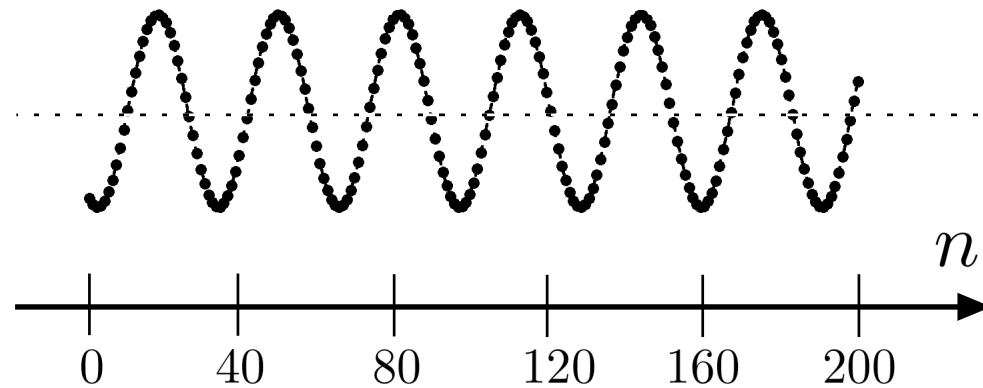
$$t = 0 : \sin qna$$



$$t = \Delta t : \sin(qna - \omega \Delta t)$$



$$t = 2\Delta t : \sin(qna - 2\omega \Delta t)$$



la sinusoide trasla verso destra come un fil di ferro rigido con  $v = \omega/q$