1096-46-1885 **Tatsuya Tate*** (tate@math.tohoku.ac.jp), Mathematical Institute, Tohoku University, 6-3, Aoba, Aramaki, Aoba-ku, Sendai, Miyagi 980-8578, Japan. *Asymptotics of one-dimensional quantum walks.*

Various local asymptotic formulas for transition probabilities of one-dimensional quantum walks with a constant quantum coin will be explained. The formulas heavily depend on the 'normalized position' of the walk. When the normalized position is inside the support of the weak-limit distribution (Konno distribution), an oscillating term appears in the leading term of the asymptotic formula. When the normalized position stays around the boundary of the support, the asymptotic formula is described in terms of the Airy function. In the outside the support, the transition probabilities decay exponentially. The rate function for the exponential decay rate will be explicitly given. (Received September 16, 2013)