## Q[k]. $Q[k] = e^{-j0.2\pi(10+4)k} = e^{-j2\pi k}e^{-j0.2\pi(4)k} = e^{-j0.2\pi(4)k} \stackrel{\text{DFT}}{\longleftrightarrow} \delta[n-4]$

Thus, the result of the IDFT has a nonzero value at n = 4, and seems to be different from q[n] which was nonzero at n = 14.

**Example 8-5:** Consider the 10-point DFT of  $q[n] = \delta[n-14]$  which should be  $Q[k] = e^{-j0.2\pi(14)k}$  by virtue of the DFT pair given in (??). If we take the 10-point IDFT of Q[k] we get a length-10 signal which is defined over the time index range n = 0, 1, 2, ... 9. Here is one way to determine the IDFT of

McClellan, Schafer, and Yoder, *DSP First*, *2e*, ISBN 0-13-065562-7. Prentice Hall, Upper Saddle River, NJ 07458. ©2016 Pearson Education, Inc.

