1.

   (a) $(1\,3\,6\,4)\,(2\,5)$ has order $\mathrm{lcm}(4,2) = 4$ and inverse $(4\,6\,3\,1)(5\,2)$.

   (b) $(1\,6\,2)(3\,5\,4)$ has order 3 and inverse $(2\,6\,1)(4\,5\,3)$.

   (c) $(1\,6)(2\,4\,7)(3\,5)$ has order 6 and inverse $(6\,1)(7\,4\,2)(5\,3)$.