[12.7] Show that  where there are p indices *r*, *s*, … , *u*.

Proof: There are *p*! permutations of *r*, *s*, … , *u*, half of them even and half odd.

Let P + be the set of even permutations, P − the set of odd permutations, and P the set of all permutations. Since **, by definition, is antisymmetric in *r*, *s*, …, *u,*



So,



Alternatively, we could solve this as



(a) *sign* (**) = 1 for ** ∈P + and *sign* (**) = -1 for ** ∈P -