



With $n = 6$	$k = 1$	$k = 2$	$k = 3$	$k = 4$	$k = 5$
$f(e) = \text{id}_A$	6				$\binom{6}{5} = 6$
$f(r) = T = (012345)$	0				0
$f(r^2) = T^2 =$	0				0
$f(r^3) = T^3 =$	0				0
$f(r^4) = T^4 =$	0				0
$f(r^5) = T^5 =$	0				0
$f(s) = S = (15)(24)$	2				2
$f(sr) = ST =$	0				0
$f(sr^2) = ST^2 =$	2				2
$f(sr^3) = ST^3 =$	0				0
$f(sr^4) = ST^4 =$	2				2
$f(sr^5) = ST^5 =$	0				0
Total	12	36	36	36	12
Number of orbits	1	3	3	3	2



**Question (d).** Prove that the amount of equivalence classes of elements of  $A$  with  $k = 6$  and  $n = 12$  equals 50.

With the same methodology as in Question (c) we can compute a table of  $|A^g|$ .

With $n = 12$ , part 1	$k = 6$
$\text{id}_A$	
$T = (0, \dots)$	
$T^2 =$	
$T^3 = (0, \dots)$	
$T^4 = (0, \dots)$	
$T^5 = (0, \dots)$	
$T^6 = (0, \dots)$	
$T^7 = (0, \dots)$	
$T^8 = (0, \dots)$	
$T^9 = (0, \dots)$	
$T^{10} = (0, \dots)$	
$T^{11} = (0, \dots)$	

