

## MAT730 PROBLEM SHEET 2

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**Instructions.** Please read the instructions on the course website carefully before submitting your solution(s).

**Questions.**

- (1) If  $\chi_1$  and  $\chi_2$  are characters of the matrices  $V_1$  and  $V_2$ , then what is the character of  $V_1 \otimes V_2$ ?
- (2) Compute the character table of  $S_5$ .
- (3) Exercise 1.13.4.
- (4) Exercise 1.13.7.