

MTH 4441 Homework Exercises Set #7 - Permutations

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Name _____

In Exercises 1-7, compute the “product of the permutations.” (Caution: The “multiplication” of permutations is actually function composition. So we begin with the right-most permutation and proceed from right to left.)

$$\sigma = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 \\ 3 & 1 & 4 & 5 & 6 & 2 \end{pmatrix} \quad \tau = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 \\ 2 & 4 & 1 & 3 & 6 & 5 \end{pmatrix} \quad \mu = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 \\ 5 & 2 & 4 & 3 & 1 & 6 \end{pmatrix}$$

1. $\tau\sigma =$

2. $\tau^2\sigma =$

3. $\sigma\tau =$

4. $\mu\sigma^2 =$

5. $\sigma^{-1} =$

6. $\sigma^{-2}\tau =$

7. $\sigma^{-1}\tau\sigma =$