

MA 294 - Turn in #2

(1) If $\sigma \in S_7$ has the property that $\sigma^4 = (2, 1, 3, 4, 5, 6, 7)$ find σ .

[5 points]

(2) If $\sigma \in S_7$ has the property that $|\sigma^3| = 7$ determine $|\sigma|$.

[5 points]

(3) For $n > 1$ let $G = \{\sigma \in S_n \mid \sigma(1) = 1\}$.

(a) Show that G is a subgroup of S_n .

(b) Determine $|G|$.

[10 points]