

Video Homework (10 points)

1. After watching the video “what is abstract algebra,” write a sentence or two telling what you think we’ll be doing or learning in this class. (FYI—your answer doesn’t have to be right, it shouldn’t be so completely wrong that I can tell you didn’t even watch the video)
2. After watching the video “function composition is associative,” write/copy down the abstract proof that function composition is associative. Be prepared to explain it or talk about it in class on Friday.
3. After watching the video “invertible functions,” write down some ideas about why a function can’t have an inverse if it is not one-to-one. Be prepared to explain it or talk about it in class on Friday.
4. The video “Permutations are functions” will teach you how to represent a permutation in cyclic notation.

Write the cyclic notation for the permutation: $\begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 \\ 3 & 5 & 2 & 6 & 1 & 4 \end{pmatrix}$

5. The video “Permutations can be composed” will teach you how to compose permutations.

Compose these permutations: $(4\ 3\ 5)$ $(1\ 2)$ $(1\ 3\ 2\ 5\ 6)$