

## Weekly Problems 10

Due: 9 April 2026 at midnight EST as a PDF on Submitty

v1.0: Last Updated April 8, 2026

Use the Four Color Theorem to prove the following:

1. All outerplanar  $G$  are 3-colorable.
2. All planar  $G$  have a decomposition into  $H_1$  and  $H_2$ , where both  $H_1$  and  $H_2$  are bipartite.