

## 547 - Fall 2019 - HW9

Due Friday 6 December 2019

1. Prove that there is no closed 4-manifold homotopy equivalent to  $S^2 \vee S^4$ .
2. Compute the cohomology ring of  $\mathbb{R}P^n$  with  $\mathbb{F}_2$  coefficients.
3. Hatcher, Exercise 3.3.2.
4. Hatcher, Exercise 3.3.3.
5. Hatcher, Exercise 3.3.5.
6. Hatcher, Exercise 3.3.7.
7. Hatcher, Exercise 3.3.8.
8. Hatcher, Exercise 3.3.9.
9. Hatcher, Exercise 3.3.10.
10. Hatcher, Exercise 3.3.12.
11. Hatcher, Exercise 3.3.17.
12. Hatcher, Exercise 3.3.18.
13. Hatcher, Exercise 3.3.20.
14. Hatcher, Exercise 3.3.25.
15. Hatcher, Exercise 3.3.27.