

Do all of 11-21 of Exercises 2.1 in Hatcher (p. 132).

Hand in the following problems: 11, 12, 13, 16, 17, 20, 21

In addition, do the following problems:

1. Calculate  $H_\bullet(\vee_k S^n)$  for  $k, n \geq 1$ . You may take  $H_\bullet(S^n)$  as known.
2. Give an example of two topological spaces which have the same homology groups but are not homotopy equivalent.