

MA3408 Week 11

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Question 1.

If $f: Y \rightarrow X$ is a continuous map and $\pi: E \rightarrow X$ is a $U(n)$ -bundle, then $c_i(f^*\pi) = f^*c_i(\pi)$ for any i .

Remark: Note that f^* has two different meanings here, once as a vector bundle pullback, and once as the pullback of a cohomology class.

Question 2.

Show that $B(G \times H) \simeq BG \times BH$ (whenever this makes sense).

Question 3.

Compute the first Chern class of the Hopf bundle $S^1 \rightarrow S^3 \rightarrow S^2$.