

# Clicker 3 on 13 March

13.03.2024 10:15 - 12:00

## G - Algebraic Topology II

RUN TIME

00:03:47

NUMBER OF VOTES

0010

Start

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### Which of the following is true?

- There is a topological space  $X$  such that  $H_n(X; \mathbb{Q}) \cong \mathbb{Q}$  for  $n = 0, 2$  and trivial otherwise, and  $H_n(X; \mathbb{F}_3) \cong \mathbb{F}_3$  for  $n = 0, 1$  and trivial otherwise. Run 1 **20%** | 2 Number of votes
- $\dim H_n(X; \mathbb{Q}) \leq \dim H_n(X; \mathbb{F}_p)$  for all  $n \geq 0$ , primes  $p$  and topological spaces  $X$ . Run 1 **100%** | 10 Number of votes
- Every free resolution of an abelian group  $M$  is of the form  $0 \rightarrow F_1 \rightarrow F_1 \rightarrow M$ . Run 1 **0%** | 0 Number of votes
- If the ring  $R$  is a field, then every  $R$ -module  $M$  has a free resolution of length 0, i.e.  $0 \rightarrow F_0 \rightarrow M \rightarrow 0$ . Run 1 **70%** | 7 Number of votes