

## Random Quiz 20c

1. Give an example of an infinite perfect field.
2. Give an example of a finite perfect field.
3. (True/False) There exists a finite field that is not perfect.
4. Let  $f(x)$  be an irreducible polynomial over a field  $F$  with characteristic  $0$ . What can you say about the multiplicities of the zeros of  $f$  over the splitting field  $E$  of  $f(x)$  over  $F$ ?