

### Ongoing list of challenge problems

- (1) Exercise 10 from Chapter 1 in *Extending the Frontiers*
- (2) Can you tile an  $8 \times 8$  chessboard with one corner removed with  $3 \times 1$  tiles?
- (3) Can you determine, with only three weighings, which of 12 stones contains a hidden key, given that we do *not* know if the desired stone is heavier or lighter than the others?
- (4) Give a geometric proof of the identity

$$1 + 3 + 5 + \cdots + (2k - 1) = k^2$$