

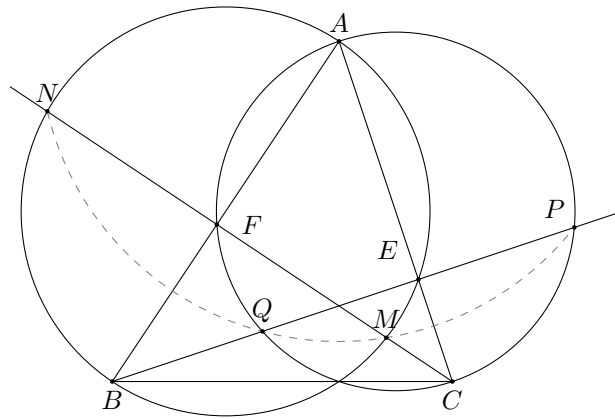
Stellenbosch Camp Test 1

Question 3 Marking Scheme

1 Question

ABC is an acute angled triangle. The circle with diameter AB intersects the altitude from C at M and N . The circle with diameter AC intersects the altitude from B at P and Q . Prove M , N , P , and Q all lie on a common circle.

2 Solution



3 Partial awards if the problem was not solved completely

- 1 mark: Noting $AM = AN$, $AP = AQ$; and making the deduction that it is sufficient to prove $AM = AP$ or similar.
- 1 mark: Any useful application of power of a point.
- 1 mark: Attempting inversion centred at A with correct radius.

4 Marks deducted if the problem is essentially solved.

- -1 mark: Claiming a non-trivial fact without proof.