

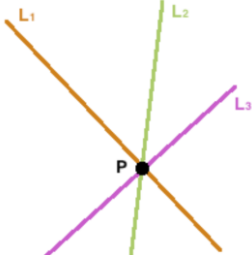
1. Goals

By the end of this unit, students:

- understand the concepts and techniques in combinatorics, geometry and vectors
- apply reasoning skills and solve problems in combinatorics, geometry and vectors
- communicate their arguments and strategies when solving problems
- construct proofs in a variety of contexts including algebraic and geometric
- interpret mathematical information and ascertain the reasonableness of their solutions to problems.

This week's focus:

- Geometric proof using vectors



2. Theoretical Components

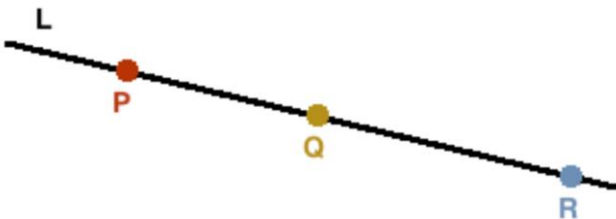
Readings:

Work through Examples 15 & 16.

Pay particular attention to the layout and where possible set up your working out as shown in these examples.

Collinear points: three or more points are collinear if they all lie on a single line.

Concurrent lines: three or more lines are concurrent if they all pass through a single point.



3. Practical Components

Ex 17E: Attempt all the questions.

Lay out your work neatly.

4. Investigation

A vector of magnitude OP in the direction from O to P is represented by OP .

If $OP - 3OQ + 2OR = 0$, show that P, Q, R are collinear.

Use an appropriate diagram and vector arithmetic to establish that P, Q & R are collinear.

20 marks (see rubric)

5.QFO

Quiz/Forum/Other

Review: <https://bit.ly/3arSVGr>