

# Lots of lines!

## Teacher notes

### Why use this resource?

This resource is taken from the Standards Unit, and invites students to pair up lines according to a number of criteria: it can be tackled with very little advanced level knowledge and offers a chance to revise the criteria for equations to represent parallel or perpendicular straight lines, to use mathematical language to discuss the equations and justify their reasoning to each other and it also can yield revision of points of intersection.

The Standards Unit detailed usage instructions are available [here](#). There is an alternative suggestion below.

### Preparation

This could be used after reviewing parallel and perpendicular lines and proving the condition  $m_1 m_2 = -1$  to consolidate or this revision and understanding could be allowed to emerge from doing it.

Card sets for each group. Students may find whiteboards or paper for sketching useful.

### Possible approach

Students work in pairs. Encourage the use of correct mathematical language as they discuss and select pairs and choose the descriptor for the last pair.

### Key questions

- What tells us the gradient of an equation?
- How can we compare the gradients of two different equations?
- Did you make any wrong assumptions, if so did some aspect of the equation mislead you?

### Possible support

Students can generally make a start straight away, a few might need encouraging to rearrange equations.

### Possible extension

- Can you complete the last descriptor in a different way?
- How many different ways?

Students could make up other pairs of equations to fit these or other criteria.