Activity 1

Title:
Properties of Straight Lines

Type:
Making Connections

Why you might use this activity:

- to connect the properties of straight lines;
- to develop deeper learning of the properties of straight lines;
- to review and consolidate the properties of straight lines.

How you might use this activity:

Learners:

- should match two straight line equations on Sheet 1 with each property on an enlarged copy (A3) of Sheet 2;
- should suggest a property for the two equations that do not fit anywhere.

Meeting the needs of all learners:

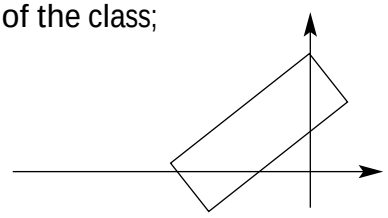
Learners could:

- explain their reasoning on each section of their A3 sheet;
- add one of their own to each set when they have finished;
- add a sketch of each graph;
- check their results using a graph drawing package;
- compare their final version with that of another group and discuss any differences until a consensus is reached.

Reviewing the learning from this activity:

Learners could:

- explain the reasoning behind their decisions to the rest of the class;
- identify the key ideas learned during the session;
- write a summary of the points learned in the session;
- suggest equations that make a rectangle such as:



What learners might do next:

- Develop work on linear functions by working on perpendicular bisectors of lines joining two given points.

Further ideas for using this type of activity:

- Properties of quadratic graphs;
- Properties of trigonometrical graphs.

Activity 1

$y = 4x + 4$	$4y = x + 3$
$y = 8x - 3$	$y + 4x + 6 = 0$
$3y = 2x - 8$	$y + 6x = 11$
$y + 8x = 6$	$2y + 8 = 3x$
$2y + x = 4$	$2y = 8x + 3$
$y = 6x - 4$	$y + x + 8 = 0$

These lines are parallel.

These lines are perpendicular.

These lines have the same y intercept.

These lines have the same x intercept.

These lines both go through the point $(1, 5)$.

These lines …

Activity 1
