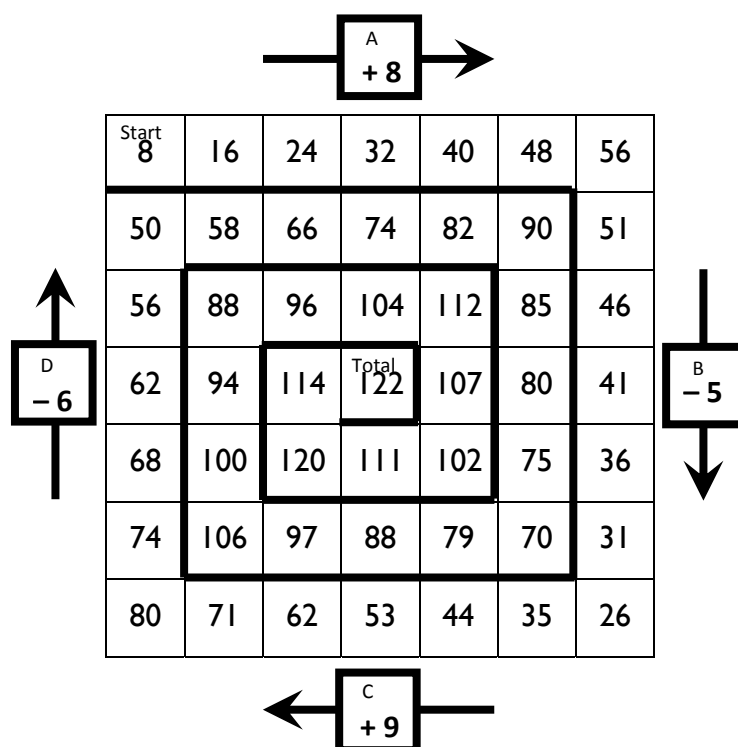


## Teaching notes

This is an individual activity designed to develop rapid addition and subtraction skills. It is ideal as a starter or as part of an arithmetic lesson.

1. Each student is given an arithmetic spiral.
2. The teacher decides on the operations to perform on each side of the spiral and a start number. You could also use a random number generator, roll of a dice, or ask students themselves to pick some numbers for the class.
3. Students complete the arithmetic spiral as quickly and accurately as they can, by repeating the operation as they move from square to square in the order of the arrows.

## An example of a completed arithmetic spiral



## Calculating the answer

For operations of '+ A', '+ B', '+ C' and '+ D' and a start number of S, the final answer in the centre square would be:

$$S + 15A + 12B + 12C + 9D$$

## Additional notes

- For positive workings only, ensure that the first operation (along the top) is positive and that positive operations are larger than the negative ones.
- If including fractions and/or decimals, ensure they are simple enough to fit in the squares (e.g. a mixture of halves, quarters and eighths, instead of thirds, fifths and sevenths).
- Able groups could be asked to derive the formula for working out the answer quickly.

