

Using Algebra to solve problems

Year 9 / S3

Activity 1

The following problems can all be solved using algebra. How many can you solve?

- 1 A rectangular swimming pool has a length that is 10m longer than twice the pool's width. If the total perimeter of the swimming pool is 140m, what is its length?
- 2 Agata is 3 years older than Leon.
Leon is twice as old as Rahim.
Rahim is half the age that Ofelia was last year.
Ofelia will celebrate her twelfth birthday next year. How old is Agata?
- 3 An artist charges £150 for small prints and £200 for large prints. If they sell three times as many small prints as they sell large prints, how many prints do they sell altogether if they earn a total of £3,900?
- 4 A sports person competed in a duathlon consisting of a 10km run, followed by a 40km cycle, followed by another 5km run. They know that they cycle exactly 2.5 times faster than they run. If they completed the first two legs of the race in 2 hours 10 minutes, how long did it take them to complete the final 5km run?
- 5 A cinema charges £14.00 for adults and £6.00 for children. In total, 280 people go to see a movie. The cinema makes a total of £3,040 from the admission fees. How many adults and children attended the movie?
- 6 Can you create your own worded problem which can be solved using algebra?

TOP TIP

If you're finding it tricky, use one of the questions above as your starting point.