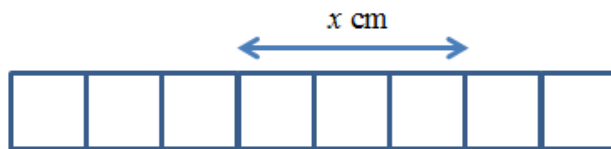# Edexcel AS Mathematics Problem solving

Section 1: Solving problems
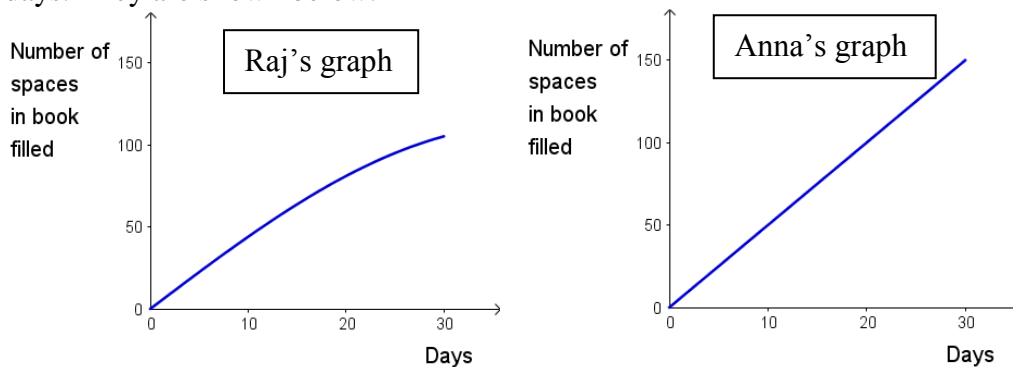
Exercise level 1

1. Dividing a number by 3 gives the same result as subtracting 24 from the number. What is the number?

2. The rectangle below is made up of squares as shown:

   The perimeter of the rectangle is 54cm. What is the value of x?

3. At a coffee shop Americanos cost £1.90. Cappuccinos cost £2.40p. Maddie bought two Americanos and some cappuccinos. She paid with a £20 note and received £9.00 change. How many cappuccinos did she buy?

4. The ratio of the side lengths in this rectangle is 3:1. The perimeter of the rectangle is 40 cm. What is its area?

5. Raj and Anna both decide to collect football stickers for a book with spaces for 150 different stickers. They will both buy a packet of five stickers each day. Each packet contains a random selection of the 150 stickers they need.

   Before they start both Raj and Anna draw a graph which predicts how many spaces they will have filled in terms of the number of days passed, for the first 30 days. They are shown below.

   Which of the graphs above is most likely to represent the number of spaces filled in their book in terms of the number of days that have passed? What has been overlooked in the graph which is least likely to be accurate?

6. Jamila has taken five out of six tests. The maximum mark in each test is 20. So far her average (mean) mark is 12. Is it possible for her to increase her average mark to above 15 after she has taken the final test?