Multiple family factors

1 Minnie and Max have three children. The product of their ages is 40 and the sum of their ages is the age that Max was when he married Minnie.

a Complete the table below to show the possible ages of Minnie's and Max's children. The first one has been done for you.

b How old do you think their children actually are? Write a brief explanation for your answer.

Three factors that make 40	Sum of the factors
1, 1, 40	42

2 Max and Minnie's neighbours, Bruce and Bree, have four children. The product of their ages is 42 and the sum is a prime number. They don't have any twins.

a Complete the table below to show the possible ages of Bruce's and Bree's children.

b How old do you think their children actually are? Write a brief explanation for your answer.

Four factors that make 42	Sum of the factors

(continued)

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3 Two of Bruce's and Bree's children have made the same number of cupcakes for a fundraising bake sale. Bianca cooked her cupcakes in batches of nine and Ben cooked his in batches of 11. What is the smallest possible number of cupcakes that each of them could have baked?

4 Ben has piano lessons every fifth day and cricket training every third day. If he has both piano lessons and cricket training on 8 August, on what date will he next have both a piano lesson and cricket training?

5
- **a** Write your own brainteaser with clues using your knowledge of multiple factors, and composite and prime numbers, for a partner to solve.
- **b** Write the answer to your brainteaser on a separate piece of paper.

6
- **a** Swap with a partner and complete their brainteaser.
- **b** Discuss and check your answers together.

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