asty ratio and proportion problems

se knowledge of fractions and multiples to solve ratio
nd proportion problems

1 Here are the ingredients for two refreshing summer drinks:

Homemade lemonade – serves 4
- 3 lemons
- 140 g caster sugar
- 1·2 litres water

**Homemade melon cooler** – serves 6
- 500 g melon chunks
- 2 limes – zest and juice
- 100 ml apple juice
- 1·4 litres shop-bought lemonade

a Calculate the ingredients required to serve both recipes to 12 people.

b If you have 560 g sugar, how many people can have homemade lemonade?

c How many people can you serve if you make the melon cooler using 7 limes?

2 Three celebration cakes are decorated with 8 walnuts for every 3 cherries.

a The first cake has 24 walnuts. How many cherries does it have?

b The second cake has 12 cherries. How many walnuts does it have?

c The third cake has 55 walnuts and cherries in total. How many of each is this?

1 Jason sorted a bag of sweets into their different colours, as shown in the diagram below.
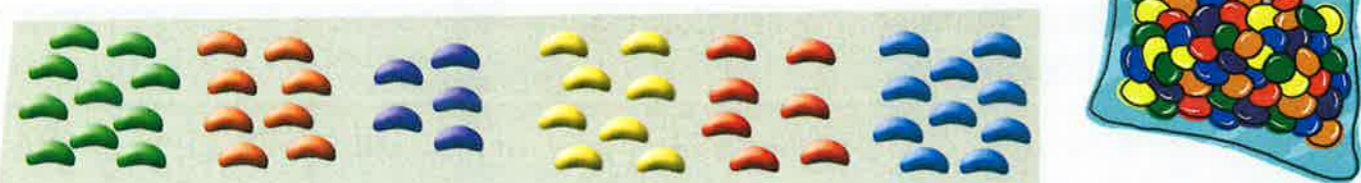
a Giving your answer first as a decimal and then as a percentage, what proportion of the sweets is:

i green? ii brown? iii red?

b Giving your answer in its simplest form, what is the ratio of these sweets?

i orange : brown ii green : brown iii yellow : blue

2 Calculate how much flour is required in each of these apple recipes.

a Apple crumble with 500 g apples and the apple to flour ratio equal to 10 : 3.

b Apple crepes with 120 g apples and the apple to flour ratio equal to 12 : 5.

c Apple and date loaf with 80 g apples and the apple to flour ratio equal to 4 : 11.

3 On his birthday Peter brings a large tin containing 48 biscuits to share with his class. There are 30 children in the class and each child eats one biscuit.

a What proportion of the tin is eaten at school? Give your answer as a fraction, decimal and percentage.

b He takes the remaining biscuits home to share with his family. After they each have one biscuit, 25% of the tin is left. How many people are in Peter's family?

4 An ice-cream manufacturer tries three new flavours: blueberry, peanut butter and pineapple. He makes the ice creams in the ratio 5 : 4 : 7.

a The first week he has enough ice-cream to make 448 cones. How many cones of each flavour could he sell?

b The next week he makes the same total number but in the ratio 3 : 2 : 3. How many more blueberry ice-cream cones could he sell in the second week?

Challenge 3

1 A mug holds 240 ml. Eliza makes tea for herself and three friends. Calculate how many millilitres of milk there will be in each cup of tea when full.

a Betty only likes a little bit of milk and her ratio is 1 part milk to 7 parts tea.

b Carol likes her tea in the ratio of 3 parts milk to 7 parts tea.

c Daisy likes her tea in the ratio of 1 part milk to 5 parts tea.

d Eliza has a cup of tea in the ratio of 2 parts milk to 3 parts tea.

2 There are 96 children in Year 6. Work out how many children chose each vegetable as their favourite.

Year 6: Favourite vegetable