

Ratio and Proportion

1. Amy, Johanne and Bill collected football cards in the ratio 17:23:20. Altogether they had 540 cards between them. How much did each person have?
2. Abdul, Francesco and Leonard travelled to a meeting. The distances they travelled were in the ratio 8:9:3. Leonard travelled 96 miles. What was the total distance that all three people travelled to get to the meeting?
3. Kerry, John and Mark shared out £380 in the ratio 7:8:5. How much money did each person receive?
4. Kyle, Fred, Joanne and Daisy were moving bricks on a building site. The ratio of bricks that each person moved was 8:5:9:6. How many bricks did they move altogether if Fred moved 65 bricks?
5. Below are the ingredients for making a chicken liver parfait for 6 people:

400 g of softened butter
2 desert spoons of olive oil
1 peeled and finely chopped onion
2 cloves of finely chopped garlic
455 g chicken livers (trimmed)
60 g of fresh thyme leaves (finely chopped)
120 ml of brandy
2 pinches of sea salt
2 pinches of black pepper (freshly ground)
4 fresh sage leaves

- a) What ingredients would be needed to make this for 24 people?
 - b) If the chef wanted to make this for 3 people, what ingredients would be needed?
6. At the Battle of Waterloo, the British, Allied and French armies were there in the proportion 46:88:144. If there were 23,000 British soldiers, how many of each of the other armies were there?
 7. Katie liked having her orange juice diluted in the ratio of juice to water of 2:11.
 - a. Write this as a unitary ratio (which means 1:*** where the *** might be a decimal fraction).
 - b. Katie drank 6500 ml of diluted orange juice in a week. How much orange juice concentrate did she use?
 8. The area of land that Bill and Ben had on their allotments was 9:11. Both men planted the same crop of peas and both were equally successful in growing them. If Bill had 81kg of peas after he harvested his crop, how much would Ben have?
 9. Tariq, Omar and Ayesha compared their ages. They had the ratio of 7:12:9. Tariq was 28 years old. What was the total of their combined ages?
 10. For a diesel engine, the correct fuel to air ratio is 2:29. I fill my tank with 46 litres of fuel. How much air will I have burned up by the time I have run out of diesel?