

# Sutton Maths Class

## Year 5 - Week 11 - Ratio and Proportion

### Starter:

1  $\frac{5}{6} - \frac{1}{3} =$

2  $\frac{1}{4} \times \frac{1}{3} \div \frac{1}{2} =$

3 What is 0.2 as a percentage?

4 What is  $\frac{3}{10}$  as a decimal?

5 What is 95% as a decimal?

6  $0.1 \times 20 =$

7  $(0.7)^2 =$

8  $50 \div 0.5 =$

Hint: How many times does 0.5 'go into' 1?

9 Find  $\frac{1}{5}$  of 505km.

10 Find 15% of 600.

11 What is 50p as a fraction of £20?

12 What is 8cm as a percentage of 2m?

13 Calculate  $-15 - 25$

14 Calculate  $-60 - -40$

15  $-100 \div -10 =$

16  $-3 \times -9 =$

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- 17 What is the highest common factor of 120 and 25?
- 18 Write 125 as a product of primes.
- 19 Which of the following are prime numbers?  
1, 5, 9, 17, 21, 27, 31, 51, 100
- 20 What is the lowest common multiple of 7 and 8?
- 21  $10^2 + 5^2 =$
- 22 Which of the following are triangular numbers?  
1, 2, 5, 10, 12, 15, 21, 25, 28, 36
- 23  $3^2 + 8 \times 5 =$
- 24 If  $a = 3$ ,  $b = 1$  and  $c = 5$ , calculate  $a^2 + b \times c$

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## Questions:

- 1 Simplify:
  - a 15:50
  - b 70:100
  - c 5:25:500
  
- 2 Split £250 in the ratio 2:3.
  
- 3 Split 480 litres in the ratio 2:1.
  
- 4 Split 1200kg in the ratio 3:2:1.
  
- 5 Katie and David split 1000 marbles in the ratio 4:1. How many marbles does David get?
  
- 6 In a class of school children, the ratio of boys to girls is 3:1. There are 8 girls in the class.
  - a How many are boys?
  - b What fraction of the class are girls?
  
- 7 In a school with 280 children There are 160 children who have school dinners. The rest have a packed lunch.
  - a What is the ratio of children who have hot dinners to packed lunch?
  - b What proportion of the children have packed lunch?
  
- 8 A cake recipe needs 200g of flour, 2 eggs and 120g of sugar. I decided to make more cakes for a big event. If I use 6 eggs, how many grams of flour and sugar will be needed for this recipe?
  
- 9 Divide £700 in the ratio of 5:3:2.
  
- 10 The number of people who voted for the blue party in an election was 4200. The number who voted for the red party was 5300. Write the ratio of blue party votes to red party votes in its simplest form.
  
- 11\* A piece of string 4m long is cut in the ratio 5:3:2. Work out the length of the longest piece.
  
- 12 Katie has some sweets. She has 14 cola bottles, 22 gummies and 28 skittles. Write down:
  - a the ratio of cola bottles to gummies to skittles in its simplest form.
  - b the ratio of cola bottles to skittles in its simplest form.

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- 13 Jane has some fruit. She has only oranges and apples. The ratio of oranges to apples is 7:3. She has 21 oranges.
- a How many apples does she have?
  - b\* What fraction of the fruit are apples?
  - d\* If she doubled the number of apples she has how many oranges would she have?
- 14\* George has some chocolates. He has milk chocolate to dark chocolate in the ratio of 5:2. If he had 25 milk chocolates how many dark chocolates would he have? If he then ate one milk chocolate what would his new ratio be?
- 15\* Harry and Fred win some money in a competition. They win £320 in total. They share it in the ratio of 5:3. How much more does Harry get than Fred? Can you find the quickest way to work this out?
- 16\* In a competition Annie and Kate win some money. They split the winnings in the ratio of 8:7. Annie gets £160. How much did they win in total?
- 17\* Fred and Ken share £600 in the ratio of 3:2. Fred gets £360, how much did Ken get?
- 18\* Daniel makes cakes using the following recipe ingredients.
- a If he decides to make 72 cakes how much butter will he need?
  - b If he decides to make 18 cakes and he has 2 eggs will this be enough to make the cake?
  - c He finally decides to make cakes and uses 1.5kg of flour. How many cakes does he make with this? He buys 200g packs of butter and packs of 6 eggs. How many packs of butter will he need to make the cakes? How many packs of eggs will he need and how many eggs will be left over?

**Ingredients (36 cakes):**

400g butter  
400g sugar  
500g flour  
5 eggs  
1tsp baking powder