

Year 6 Maths Assessment: Ratio and Proportion

Learning objective: To solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts, and to solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Read each question carefully. Show your working out in the space provided. You may use a calculator if required for complex division, but try to use mental methods where possible. Ensure all money is written in £ format.

Max the monkey is organising a jungle party. He is mixing fruit punch and buying snacks for his friends. Pip the caterpillar is helping him calculate the ratios for the perfect fruit juice blend, while Zara the zebra is decorating the snack tables.

Word bank: Ratio · Proportion · Scale factor · Simplest form · Equivalent · Share · Quantity

1. Max is making fruit punch. He mixes 3 parts apple juice to 2 parts orange juice. If he uses 15 litres of apple juice, how many litres of orange juice does he need? (2 marks)

2. Zara is buying bags of popcorn for the party. A pack of 4 bags costs £3.20. How much would 10 bags cost? Show your working. (3 marks)

3. Simplify the following ratios to their simplest form: a) 12:18, b) 25:100. (2 marks)

4. Pip has 40 books. The ratio of fiction books to non-fiction books is 3:5. How many fiction books does Pip have? (3 marks)

5. Max and Pip share a reward of £50 in the ratio 2:3. How much money does each friend receive? Explain your method. (4 marks)

6. A map of the jungle uses a scale where 2cm represents 5km. If the distance between the river and the tall tree is 8cm on the map, what is the real-life distance in kilometres? (3 marks)

7. Extended Writing: Max is planning a feast. He needs to buy ingredients for a salad. He finds that 3 heads of lettuce cost £2.10. He needs enough salad for 20 people, and he calculates that 1 head of lettuce serves 4 people. Write a step-by-step guide explaining how Max calculates the total cost of the lettuce needed. Include the ratio of cost to quantity and the final total price. (8 marks)

Draw: Draw a visual representation of the fruit punch ratio (3 parts apple, 2 parts orange) using a bar model or a diagram of containers.

Extension challenge: Total: /25