

Max's Magnificent Maths Challenge: Percentages

Learning objective: To recall and use equivalences between simple fractions, decimals, and percentages, including in different contexts.

Join Max the monkey as he manages his jungle marketplace! Read each question carefully, choose the correct answer or provide the solution, and remember that 'per cent' means 'parts per hundred'.

Answer Key: 1. B (25%), 2. True, 3. 0.2, 4. C (50%), 5. False (it is £2.50), 6. 10%, 7. A (75%), 8. True, 9. 0.05, 10. 40%. Reasoning for Greater Depth: 1. Justify: Because $25/100$ simplifies to $1/4$. 2. Compare: 0.5 is 50%, so 0.5 is greater than 45%. 3. Explain: 10% of £20 is £2, so 20% is £4. 4. What if: If the price increased by 50%, it would cost £15. 5. Pattern: 1%, 10%, 25%, 50%, 75%, 100%. 6. Design: Answers will vary based on artistic patterns created.

Word bank: Percentage · Fraction · Decimal · Equivalence · Hundredths · Proportion · Value

1. Max has a basket of 100 bananas. He gives away 25. What percentage has he given away? A) 10% B) 25%* C) 50% D) 75% (1 mark)

2. True or False: 50% is the same as the fraction $1/2$. (1 mark)

3. Write 20% as a decimal. (1 mark)

4. If a mango costs £4.00, what is 50% of the price? A) £1.00 B) £1.50 C) £2.00* D) £2.50 (1 mark)

5. True or False: 25% of £10.00 is £3.00. (1 mark)

6. Max finds 10 pineapples out of 100 pieces of fruit. What is this as a percentage? (1 mark)

7. Which is equivalent to 0.75? A) 75%* B) 7.5% C) 750% D) 0.075 (1 mark)

8. True or False: 100% represents the whole amount. (1 mark)

9. Write 5% as a decimal. (1 mark)

10. If Max has 40 apples out of 100, what percentage is this? (1 mark)

Draw: Draw a 10x10 grid (100 squares total). Colour 30 squares blue to represent 30%, and 20 squares yellow to represent 20%. Label the remaining white squares as a percentage.



Extension challenge: 1. Justify why 25% is equal to 0.25 and $\frac{1}{4}$. 2. Compare 0.5 and 45%: which is larger and why? 3. Max sells a coconut for £20. Explain how to calculate 20% of this price. 4. What might happen to the price of a £10 item if it increases by 50%? 5. Identify the pattern between fractions with denominators of 100 and their percentage equivalents. 6. Create a 'Percentage Pattern' art piece using a grid, justifying your design choices using mathematical proportions.