

Max's Jungle Market Algebra Challenge

Learning objective: To use simple formulae, generate and describe linear number sequences, and express missing number problems algebraically.

Help Max the monkey calculate the prices at the jungle market. Read the scenarios carefully and use your knowledge of algebra to find the missing values.

Max is organising the annual jungle fruit market. He sells bunches of bananas for £2 each and crates of mangoes for £5 each. Max likes to keep his records using algebra. He uses the letter 'b' to represent the number of bunches of bananas and 'm' for the number of crates of mangoes. To calculate the total cost for a customer, Max uses the formula: Total Cost = $2b + 5m$. For example, if a customer buys 3 bunches of bananas and 2 crates of mangoes, the cost is $(2 \times 3) + (5 \times 2) = 6 + 10 = £16$.

Word bank: variable · expression · formula · unknown · sequence · substitute

1. Using Max's formula ($2b + 5m$), calculate the total cost for a customer who buys 7 bunches of bananas and 4 crates of mangoes. (2 marks)

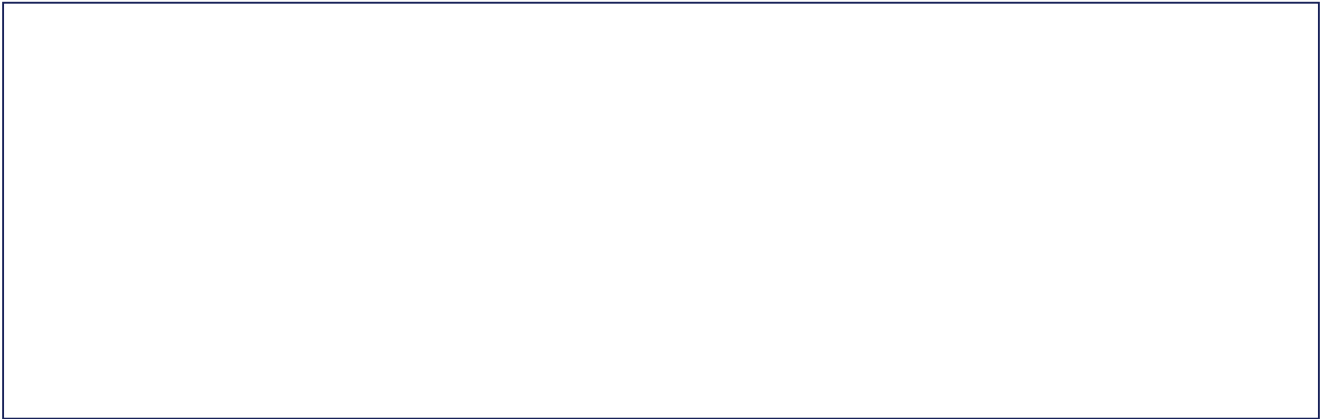
2. Max has a special offer for a 'Fruit Feast' box. The price is calculated as $3f + 10$, where 'f' is the number of kilograms of fruit. How much does a 6kg box cost? (2 marks)

3. Find the missing number in this sequence: 4, 9, 14, 19, _____. Explain the rule you used to find the next number. (2 marks)

4. If $x + 18 = 32$, what is the value of x? (1 mark)

5. A customer pays £25 for a collection of mangoes using the formula $5m = 25$. How many crates of mangoes did they buy? (2 marks)

Draw: Draw a picture of Max the monkey standing next to a market stall with a sign showing the formula ' $2b + 5m = \text{Total}$ '. Make sure the fruit looks bright and colourful!



Extension challenge: Create your own 'Jungle Price' formula for a different item, such as coconuts or pineapples. Write a word problem for a friend to solve using your new formula.