Max the Monkey's Algebraic Adventures

Learning objective: To express missing number problems algebraically, find pairs of numbers that satisfy an equation with two unknowns, and enumerate possibilities of combinations of two variables.

Max the Monkey has been busy in the jungle solving puzzles! Help him work through these algebra challenges. Read each question carefully and select the correct answer or write your solution in the space provided.

Answer Key: 1. B, 2. A, 3. True, 4. 11, 5. C, 6. False, 7. 4, 8. B, 9. 14, 10. True. Working: 4) a + 6 = 17, a = 11. 7) 2b = 8, b = 4. 9) x + y = 20, if x = 6, y = 14.

Word bank: variable · equation · expression · unknown · formula

1. 1. If a + 8 = 15, what is the value of 'a'? A) 6 B) 7* C) 8 D) 9 (1 mark)

2. 2. Max has 5 bananas and receives 'b' more. He now has 12. Which equation shows this? A) 5 + b = 12* B) 5 - b = 12 C) 12 + b = 5 D) 5b = 12 (1 mark)

3. 3. True or False: In the expression 3x + 2, 'x' is a variable. (1 mark)

4. 4. If a + 6 = 17, what is a? (1 mark)

5. 5. Which of these represents 'multiply 4 by y'? A) 4 + y B) y/4 C) 4y* D) 4 - y (1 mark)

6. 6. True or False: If x = 3 and y = 4, then x + y = 6. (1 mark)

7. 7. If 2b = 8, what is the value of b? (1 mark)

8. 8. Max buys two notebooks for £x each and a pen for £3. The total is £9. Which equation is correct? A) x + 3 = 9 B) 2x + 3 = 9* C) 3x + 2 = 9 D) 2x - 3 = 9 (1 mark)

9. 9. If x + y = 20 and x = 6, what is y? (1 mark)

10. 10. True or False: An equation must always contain an equals sign (=). (1 mark)

Draw: Draw Max the Monkey sitting on a jungle branch, holding a whiteboard with the equation '2x + 5 = 15' written on it, surrounded by tropical leaves.

Extension challenge: Max has £20. He buys 'n' number of mangoes costing £2 each. Write an equation to show how much money he has left (£L) and calculate how much he has left if he buys 7 mangoes.