Max’s Spooky Autumn Festival Maths Assessment

Learning objective: To apply Year 6 mathematical skills including arithmetic, geometry, and statistics within the context of an autumn festival.

Read each question carefully and show your working out. Ensure your final answers include the correct units where necessary. You have 45 minutes to complete this assessment.

Max the monkey is organising an autumn festival for his friends. He has 120 pumpkin lanterns to decorate the forest path. He plans to sell tickets for the event and has bought various supplies, including bags of apples and decorative autumn leaves, to make the evening special for everyone.

Word bank: mean · coordinates · percentage · volume · perimeter · ratio · estimate

1. Max buys 5 bags of apples at £3.75 per bag. He pays with a £20 note. How much change should Max receive? (2 marks)

2. Max wants to arrange 120 pumpkins into 4 rows. If he places an equal number in each row, how many pumpkins are in each row? If he then decides to arrange them in a ratio of 2 large pumpkins to 3 small pumpkins, how many large pumpkins does he have? (3 marks)

3. The festival field is a rectangle measuring 15 metres by 20 metres. Calculate the area of the field. If Max wants to put decorative fencing around the entire perimeter, what is the total length of fencing he needs? (3 marks)

4. Max tracked the number of visitors over four hours: 45, 62, 38, and 55. Calculate the mean number of visitors per hour. (3 marks)

5. A box of autumn leaves is a cuboid measuring 10cm by 5cm by 4cm. Calculate the volume of the box. Show your working. (3 marks)

6. Max has 200 tickets to sell. He has sold 85% of them so far. How many tickets does he have left to sell? (3 marks)

7. Max is designing a map of the festival. The entrance is at (2, 3). He moves 4 units right and 3 units up to place the apple stall. What are the coordinates of the apple stall? Explain how you found your answer. (3 marks)

8. Max wants to create a budget for next year's festival. Write a short paragraph explaining how he could use percentages and mean averages to ensure the festival is affordable for his friends while still making a small profit for charity. Include at least two mathematical terms. (5 marks)

Draw: Draw a symmetrical spider web design on a piece of graph paper, ensuring the design covers an area of exactly 16 square units.

Extension challenge: Total: /25