# Grade 4 Math Assessment: Exploring Coordinates

*Learning objective: To identify, describe, and represent the position of a shape following a reflection or translation, and to plot coordinates in the first quadrant.*

Read each question carefully. Use a pencil and ruler for all drawings. Remember to write your coordinates in the correct format: (x, y).

Max the monkey is helping his friends map out a new playground. He has created a grid where every unit represents 1 meter. Max needs your help to ensure the equipment is placed in the correct positions.

*Word bank: x-axis · y-axis · origin · coordinate · quadrant · translation · reflection · horizontal · vertical*

**1. Max places a slide at (3, 2) and a swing set at (3, 7). What is the vertical distance between the slide and the swing set? Show your working. (2 marks)**

**2. A climbing frame is located at (5, 4). If Max translates the climbing frame 3 units to the right and 2 units up, what will the new coordinates be? (2 marks)**

**3. Zara the zebra draws a triangle on the grid with vertices at (1, 1), (4, 1), and (2, 5). She reflects the triangle across the vertical line x=5. Explain where the new vertices of the reflected triangle will be. (4 marks)**

**4. Kit the fox finds a treasure map on a grid. The treasure is at (8, 9). He starts at (0, 0). Describe the journey Kit must take using only horizontal and vertical movements. (3 marks)**

**5. Look at the grid provided below. A rectangle has three corners at (2, 2), (6, 2), and (2, 5). What are the coordinates of the fourth corner? Explain how you know. (4 marks)**

**6. Max wants to build a path that connects three points: (1, 8), (4, 4), and (8, 8). Draw these points on a grid and connect them. If the path costs £15 per meter, and each unit on the grid is 2 metres, calculate the total cost to build the path. Show your full calculation. (5 marks)**

**7. Define what an 'origin' is on a coordinate grid and state its coordinates. (2 marks)**

**Draw: Draw a 10x10 coordinate grid on your paper. Clearly label the x-axis (horizontal) and the y-axis (vertical) from 0 to 10.**

*Extension challenge: Total: /25*