106. Plotting Straight Line Graphs (y = mx + c)

Practice Questions

1. Plot the graph of $y = 2x + 3$ for $x = -2$ to 2.
2. Plot the graph of $y = -3x + 1$ for $x = -1$ to 3.
3. Complete the table for $y = 4x - 2$ for $x = -2, -1, 0, 1, 2$ and then plot the graph.
4. Draw the graph of $y = x - 4$ for $x = -3$ to 3.
5. Plot the graph of $y = -x + 2$ for $x = -2$ to 2.
6. Complete the table for $y = \frac{1}{2}x + 1$ for $x = -4, -2, 0, 2, 4$, and then plot the graph.
7. Draw the graph of $y = -2x + 5$ for $x = -3$ to 3.
8. Find the x-intercept and y-intercept of $y = 3x - 6$ and plot the graph.
9. Complete the table and draw the graph of $y = -4x + 8$ for $x = -2$ to 2.
10. Identify the gradient and y-intercept for $y = 5x - 7$, then plot the graph.

Scenario Questions

1. A taxi charges £3 as a base fare and £2 per mile. Represent the cost C in terms of distance d using the equation $C = 2d + 3$ and plot the graph.
2. A plumber charges a £20 call-out fee plus £15 per hour. Write the equation for total cost T in terms of hours worked h and plot the graph.
3. A factory produces 5 items per hour, starting with 10 items already made. Represent this as $y = 5x + 10$ and plot the graph for $x = 0$ to 5.
4. A car rental company charges £50 per day plus a £100 deposit. Write the cost C in terms of days rented d and plot the graph.
5. A boat is sinking at a rate of 1 metre per minute from an initial height of 20 metres. Represent this as $h = -1t + 20$ and plot the graph.
6. A runner starts 5 metres ahead and runs at 4 m/s. Write an equation for their position d over time t and plot the graph.
7. A temperature starts at 30°C and decreases by 2°C per hour. Represent this as $T = -2h + 30$ and plot the graph.
8. A train journey starts at £5 and increases by £0.50 per stop. Write the cost C in terms of the number of stops s and plot the graph.
9. A diver descends 3 metres per second from the surface. Write the equation $d = -3t$ and plot the graph for $t = 0$ to 5.
10. A bakery sells cupcakes for £1.50 each with a minimum order of 5. Write the total cost C in terms of cupcakes x and plot the graph.

Extra Content for Foundation GCSE

106. Plotting Straight Line Graphs (y = mx + c)

Practice Questions

1. Points: (-2, -1), (-1, 1), (0, 3), (1, 5), (2, 7)
2. Points: (-1, 4), (0, 1), (1, -2), (2, -5), (3, -8)
3. Points: (-2, -10), (-1, -6), (0, -2), (1, 2), (2, 6)
4. Points: (-3, -7), (-2, -6), (-1, -5), (0, -4), (1, -3), (2, -2), (3, -1)
5. Points: (-2, 4), (-1, 3), (0, 2), (1, 1), (2, 0)
6. Points: (-4, -1), (-2, 0), (0, 1), (2, 2), (4, 3)
7. Points: (-3, 11), (-2, 9), (-1, 7), (0, 5), (1, 3), (2, 1), (3, -1)
8. x-intercept: (2, 0), y-intercept: (0, -6)
9. Points: (-2, 16), (-1, 12), (0, 8), (1, 4), (2, 0)
10. Gradient: 5, y-intercept: (0, -7)

Scenario Questions

1. Equation: $C = 2d + 3$
2. Equation: $T = 15h + 20$
3. Equation: $y = 5x + 10$
4. Equation: $C = 50d + 100$
5. Equation: $h = -1t + 20$
6. Equation: $d = 4t + 5$
7. Equation: $T = -2h + 30$
8. Equation: $C = 0.50s + 5$
9. Equation: $d = -3t$
10. Equation: $C = 1.50x + 5$