Year 8 Sequences, Functions and Graphs – Developing

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Year 8 · Maths · Sequences, Functions and Straight-Line Graphs · Level 2 Developing · 10 questions

Name _____ **Date** _____

A. Use functions and graphs

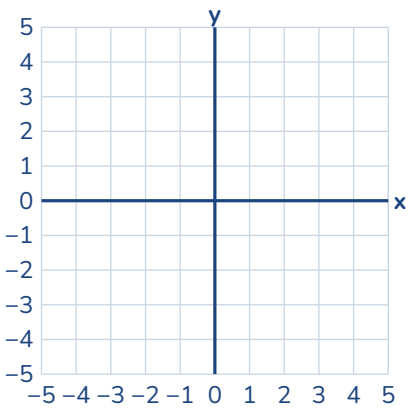
1. A taxi charges a fixed $12 plus $6 for every kilometre. Write an equation for the cost y dollars of a journey of x km.

Answer _____

2. A plumber charges a call-out fee of $24 plus $4 per hour. Write an equation for the total charge y dollars for x hours.

Answer _____

3. Complete a table of values for $y = -x + 1$ for $x = -2, -1, 0, 1, 2$. Plot the points on the grid and draw the line.



4. A straight line passes through (−2, −14) and (2, 2). Find its gradient and its equation.

Answer _____

5. A straight line passes through (−2, −10) and (1, −1). Find its gradient and its equation.

Answer _____

6. A pattern is an L-shape of squares growing by one square on each arm. Pattern 1 uses 3 pieces and each new pattern adds 2. Write the nth term and find pattern 12.

Answer _____

7. A pattern is a row of hexagons made of sticks. Pattern 1 uses 6 pieces and each new pattern adds 5. Write the nth term and find pattern 16.

Answer _____

8. A function machine is input → × 1/2 → − 5 → output. Find the output when the input is 8.

Answer _____

9. Find the nth term of the sequence 5, 12, 19, 26, …

Answer _____

10. Two cyclists ride towards each other on the same road. On a distance–time graph their lines cross. What does the crossing point show?

Answer _____