Year 9 Linear and Quadratic Graphs – Challenge

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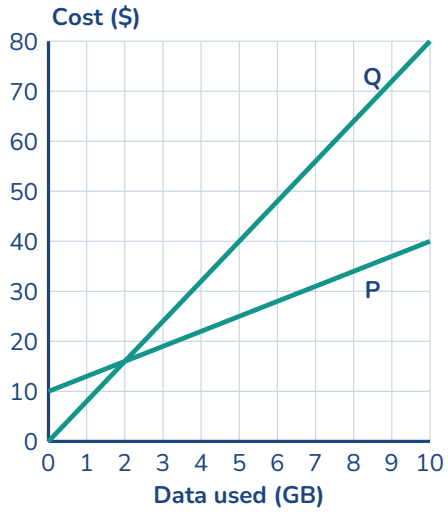
Year 9 · Maths · Linear and Quadratic Graphs · Level 3 Challenge · 8 questions

Name _____ **Date** _____

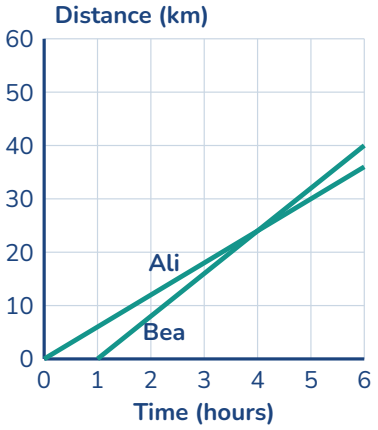
A. Think like a mathematician

1. The graph shows the monthly cost of two phone plans, P and Q. Find the cost per gigabyte for each plan. For how many gigabytes do the plans cost the same?



Answer _____

2. Ali walks and Bea cycles along the same path from the same start. The graph shows their journeys. Who is faster, and by how many km/h? When does Bea catch up with Ali?



Answer _____

3. Gus says the lines $y = 2x + 1$ and $2y = 4x - 2$ are not parallel because the numbers are different. Explain the mistake and give the correct answer.

Answer _____

4. Lina works out $y = x^2 - 3$ for $x = -3$ and gets -12. Explain the mistake and give the correct answer.

Answer _____

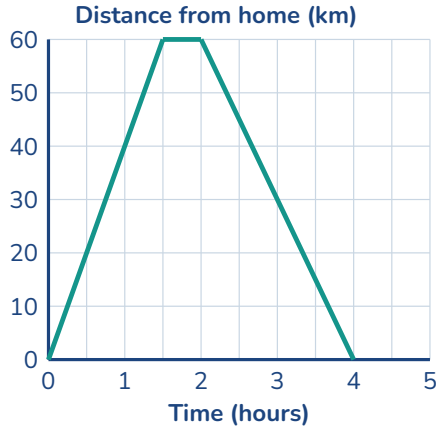
5. Amir says every graph of the form $y = x^2 + a$ has its lowest point on the y-axis. Is Amir right? Explain.

Answer _____

6. Which of the graphs of $2x + y = 8$, $y = x^2 + 4$, $y = 2x + 4$ and $y = 4$ pass through the point $(0, 4)$? Which are curves?

Answer _____

7. The graph shows a delivery van's round trip. Find the speed for the first part of the journey, and how long the stop lasted in minutes.



Answer _____

8. A printer prints 420 pages in 8 minutes. At the same rate, how many pages does it print in an hour?

Answer _____