Geometric mean

Grade 7 | Higher | 5 questions, 20 marks

GCSE Statistics topic practice

Name: _____ **Date:** _____ **Score:** _____ **/ 20**

1 The number of subscribers to a video channel was multiplied by 1.25 in its first year and by 1.8 in its second year.

a. Calculate the geometric mean of the two multipliers. (2)

b. Interpret your answer to part (a) in context. (1)

(3 marks)

2 The number of members of a climbing club went up by 50% in 2023, by 20% in 2024 and by 8% in 2025.

a. Calculate the geometric mean of the three yearly multipliers. Give your answer correct to 3 significant figures. (3)

b. Interpret your answer to part (a) in context. (1)

(4 marks)

3 The table shows the percentage change in the average price of a flat in a town in each of four years.

Year	2022	2023	2024	2025
Percentage change	10% increase	20% decrease	25% increase	10% increase

a. Calculate the geometric mean of the four yearly multipliers. Give your answer correct to 3 significant figures. (3)

b. Write down the average percentage change in the price of a flat each year. (1)

(4 marks)

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4 The value of an investment went up by 50% in its first year and then went down by 50% in its second year.

Kai says, "The mean of +50% and −50% is 0%, so on average the value of the investment did not change."

a. Calculate the geometric mean of the two yearly multipliers. Give your answer correct to 3 significant figures. (2)

b. Use your answer to part (a) to explain whether Kai is right. (2)

(4 marks)

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5 The number of visitors to a museum went up by 60% in 2023 and went up by 35% in 2024. It then changed again in 2025.

The geometric mean of the three yearly multipliers is 1.2

a. Work out the percentage change in the number of visitors in 2025. (3)

b. The museum had 2500 visitors in 2022. Work out the number of visitors in 2025. (2)

(5 marks)

End of questions | Total 20 marks

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