

Question 17**(8 marks)**

Indie was in a line with 24 other people for a slide at a water park. She noticed that the approximate number of people (P) in the line for the slide increased by 1.5% every minute (m).

(a) Write an exponential equation in the form $P = ar^m$ to represent this situation. (2 marks)

(b) Determine the approximate number of people in the line after 2 hours. (2 marks)

After 3 hours, the line started to decrease by 1% per minute.

(c) Using this new information, calculate the approximate number of people in line, 5 hours after Indie initially lined up. (4 marks)