

Question 7**(6 marks)**

A water tank is full. When a tap at the bottom of the tank is opened, 84 litres run out in the first minute, 78 litres in the second minute and 72 litres in the third minute. This pattern continues until the tank is empty.

- (a) Write a rule for the n^{th} term of a sequence in the form $T_n = A + Bn$, which will model this situation where T_n is the amount of water that runs out in the n^{th} minute. (2 marks)

- (b) How many litres run out in the seventh minute? (1 mark)

- (c) How many litres have run out after eight minutes? (1 mark)

- (d) What is the capacity of the tank? (2 marks)