

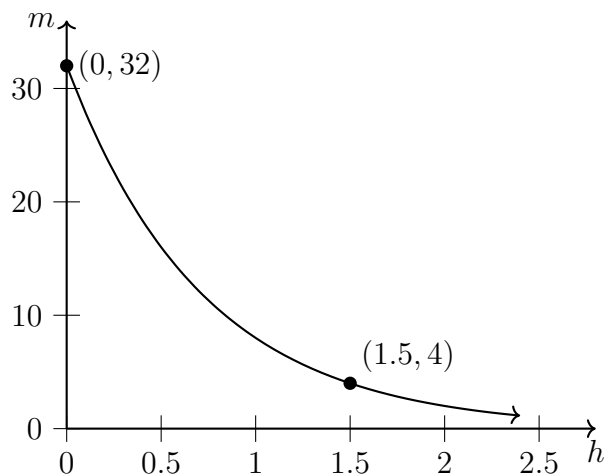
Practice Regents problems #6

AII-F.BF.2: Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.

1. Given the sequence a : 2, 5, 8, 11, ...
 - (a) State whether the sequence is arithmetic, geometric, or neither. Justify your answer.
 - (b) Write a recursive formula for a .
 - (c) Write an explicit formula for the sequence.
 - (d) Find the sum of the first three terms the sequence.

AII-F.LE.2: Construct a linear or exponential function symbolically given: a graph, a description of the relationship, or two input-output pairs (include reading these from a table).

2. The graph shows the amount of a medicine m , in milligrams, remaining in a patient's body h hours after receiving an injection. The amount of the medicine decreases exponentially.



- (a) By what factor did the medicine decrease in the first hour and a half? Explain how you know.
- (b) By what factor did the medicine decrease in the first half hour? What about in the first hour? Explain how you know.
- (c) Write an equation relating m , the number of milligrams of the drug in the patient's body, and h , the number of hours since the injection.