

Before the Lesson - Taylor Polynomials

1. Write a series for each sequence using sigma notation.

a) 2, 7, 12, 17, ...

b) 5, 15, 45, 135, ...

c) 3, 1.2, 0.48, 0.192, ...

Find the sum when possible.

What is the significant idea in being able to find the sums above?

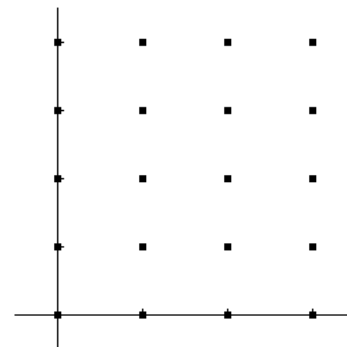
2. Write f and g as functions of x that represent the values in the table.

x	1	2	3	4
f	2	7	12	17
g	2	7	13	20

3. Consider the initial value problem $y' = 3 - y$, $y(0) = 1$.

a) Use Euler's method with 4 steps to estimate $y(1)$.

b) Sketch the slope field for this differential equation in the first quadrant, and use it to decide if your estimate in an over or underestimate.



5. Write a tangent line approximation for each.

a) $g(x) = 3x^2 + 2x + 1$ at $x = 0$

b) $f(x) = \cos x$ at $x = 0$

Write the formula for finding a tangent line approximation for function h at $x = 0$.