NCEA Level 3 Calculus (Integration)
16. Anti-differentiation (Homework)

Reading

Go and watch...

https://www.youtube.com/watch?v=7dcDuVyzb8Y

Questions

1. Find the most general antiderivative.
   (a) $f(x) = x - 3$
   (b) $f(x) = (x + 1)(x + 2)$
   (c) $f(\theta) = 6\theta^2 - 7\sec^2\theta$
   (d) $g(h) = \pi^2$
   (e) $f(x) = x^{3.7} + \sqrt{x} + 7x^{\sqrt{7}-1}$
2. Given that the graph of φ passes through the point $(1, 6)$ and that the slope of its tangent line at $(x, \varphi(x))$ is $2x + 1$, find $\varphi(2)$.
3. This is the second derivative of g. Find g given that $g'(0) = 0$ and $g(0) = 1$.