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.

