

MA 16020 LESSON 1A: INTEGRATION BY SUBSTITUTION (WARM-UP)

Determine the Inner/Outer Functions for the following:

(a) $h(x) = \sin^3 x$

Solution: INNER FUNCTION $f(x) = x^3$
OUTER FUNCTION $g(x) = \sin x$

(b) $h(x) = \sqrt{3x + 2}$

Solution: INNER FUNCTION $f(x) = \sqrt{x}$
OUTER FUNCTION $g(x) = 3x + 2$

(c) $h(x) = \tan(3x^2)$

Solution: INNER FUNCTION $f(x) = \tan x$
OUTER FUNCTION $g(x) = 3x^2$