ANTIDERIVATIVES

LESSON 3.9

WARM UP

If f is an antiderivative of g,
and g is an antiderivative of h,
then

(a) h is an antiderivative of f.

(b) h is the second derivative of f.

(c) h is the derivative of f''.

FIND THE ANTIDERIVATIVES:

(a) $f(x) = x^2 + 4x + 5$

(b) $g(t) = \sin(2t)$

(c) $h(x) = x^{4/3} + \sec^2 x$

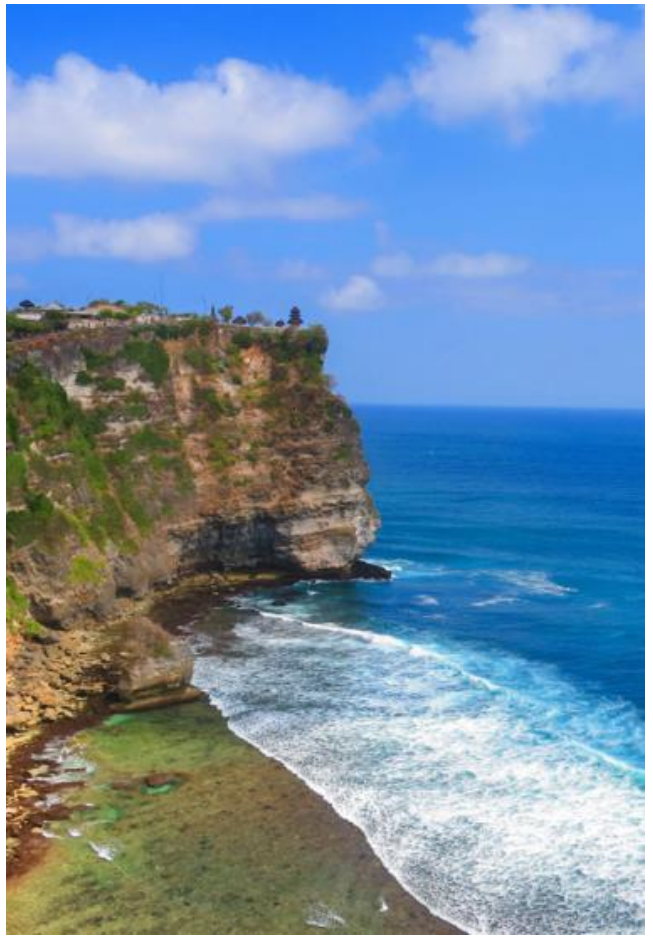
PROBLEM

Find the unique function $f(x)$ such that

$$f'(x) = x^2 - 2x \text{ and } f(1) = \frac{1}{3}.$$

PROBLEM

Suppose a stone is dropped from a cliff. The stone hits the water at 120 feet/sec. What is the height of the cliff?



Source: jonas.ph