Exercise 20

Differentiate the function.

$$S(R) = 4\pi R^2$$

Solution

Take the derivative of the given function.

$$S'(R) = \frac{d}{dR}(4\pi R^2)$$

Use the constant multiple rule.

$$S'(R) = 4\pi \frac{d}{dR}(R^2)$$

Use the power rule.

$$S'(R) = 4\pi(2R)$$

Therefore,

$$S'(R) = 8\pi R.$$