

Derivative Rules

1. Differentiate the following functions

a. $y = (3t - 1)(2t - 2)^{-1}$

Ans. $-\frac{1}{(t-1)^2}$

b. $f(x) = x^5(\sqrt{x} + 1)$

Ans. $5x^4 + \frac{11x^4\sqrt{x}}{2}$

c. $s(t) = (t + 1)(t + 2)(t + 3)$

Ans. $11 + 12t + 3t^2$.