

## Answer on Question #47287 – Math – Calculus

$y=(2x+3)$  underroot of  $x$  -----differentiate it. w.r.t  $x$

### Solution:

We have  $(\varphi(x) * \psi(x))' = \varphi(x) * \psi'(x) + \varphi'(x) * \psi(x)$ .

Also  $y = (2x + 3) * \sqrt{x}$ . Hence

$$\begin{aligned}\frac{dy}{dx} = y' &= \left( (2x + 3) * \sqrt{x} \right)' = (2x + 3)' * \sqrt{x} + (2x + 3) * (\sqrt{x})' = \\ &= 2\sqrt{x} + \frac{(2x + 3)}{2\sqrt{x}} = \frac{(6x + 3)}{2\sqrt{x}}\end{aligned}$$

**Answer:**  $y' = \frac{(6x+3)}{2\sqrt{x}}$