

Math 2215 - Calculus 1

Quiz #7 - 2016.09.09

Solutions

Compute the following derivative:

$$\frac{d}{dr} \sqrt{3r^2 - 2r + \frac{5}{2r+3}}$$

$$\begin{aligned} \frac{d}{dr} \sqrt{3r^2 - 2r + \frac{5}{2r+3}} &= \frac{1}{2} \frac{1}{\sqrt{3r^2 - 2r + \frac{5}{2r+3}}} \cdot \frac{d}{dr} \left(3r^2 - 2r + \frac{5}{2r+3} \right) \\ &= \frac{1}{2} \frac{1}{\sqrt{3r^2 - 2r + \frac{5}{2r+3}}} \cdot \left(6r - 2 - \frac{5}{(2r+3)^2} \cdot \frac{d}{dr}(2r+3) \right) \\ &= \frac{1}{2} \frac{1}{\sqrt{3r^2 - 2r + \frac{5}{2r+3}}} \cdot \left(6r - 2 - \frac{5}{(2r+3)^2} \cdot 2 \right) \end{aligned}$$