17 практикум 6

$y = \frac{2}{\sqrt{x}}$, $x_0 = 9$, $\Delta x = -0{,}01$, $dy = ?$

$dy = y'(x_0) \cdot \Delta x$

$y'(x) = 2(x^{-\frac{1}{2}})' = 2 \cdot (-\frac{1}{2}) x^{-\frac{3}{2}} = \frac{1}{\sqrt{x^3}}$

$dy = -\frac{1}{\sqrt{x_0^3}} \Delta x = -\frac{1}{\sqrt{243}} \cdot (-0{,}01) =$

$= \frac{0{,}01}{\sqrt{243}} \approx \frac{0{,}01}{15{,}59} \approx \underline{0{,}0006}$