Semester work in mathematical analysis

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Original expression before simplifying:

$\frac{\sin(x)-2\cdot(4-\frac{8}{2})}{10} \cdot (x-2)^3 \cdot \arccos(x)$

Using 2.45 theorema we will have that derivative is:

$\frac{\sin(x)}{10} \cdot (x-2)^3 \cdot \arccos(x)$

Receiving signals from space, we get an intermediate result after simplification:

$\frac{\sin(x)}{10} \cdot (x-2)^3 \cdot \arccos(x)$

Differentiation by x

Derivative is: :

$(\frac{1\cdot\cos(x)\cdot 1\cdot 10-\sin(x)\cdot 0}{10^2} \cdot (x-2)^3 + \frac{\sin(x)}{10} \cdot (1-0)\cdot 3\cdot(x-2)^2)\cdot\arccos(x) + \frac{\sin(x)}{10} \cdot (x-2)^3 \cdot 1 \cdot \frac{-1}{(1-x^2)^{0.5}}$

Using 7.41 theorema we will have that derivative is:

$(\frac{\cos(x)\cdot 10}{100} \cdot (x-2)^3 + \frac{\sin(x)}{10} \cdot 3\cdot(x-2)^2)\cdot\arccos(x) + \frac{\sin(x)}{10} \cdot (x-2)^3 \cdot \frac{-1}{(1-x^2)^{0.5}}$

Results after diffferentiation and simplification: $(\frac{\cos(x)\cdot 10}{100}\cdot(x-2)^3 + \frac{\sin(x)}{10} \cdot 3\cdot(x-2)^2)\cdot\arccos(x) + \frac{\sin(x)}{10} \cdot (x-2)^3 \cdot \frac{-1}{(1-x^2)^{0.5}}$