Name and surname:

U number:

Calculus I - MAC 2311 - Section 003
Quiz 7
11/14/2018

Instructions: The total number of points of this quiz is 11, but your grade will be the minimum between your score and 10. You will get an extra point if you solve correctly the last exercise. **Calculators are not allowed** for this quiz.

1) [4 points] Showing all your work, simplify the expression $\cos\left(\tan^{-1}\left(\frac{x}{3}\right)\right)$.

2) [4 points] Compute the derivatives of the following functions:

a) $f(x) = (3x + 1) \cdot \arctan(x^3)$.

b) $g(t) = \dfrac{\ln(2t)}{\arccos(t)}$

3) [3 points] Prove that $\frac{d}{dx}\left[\arccos(x)\right] = -\frac{1}{\sqrt{1-x^2}}$.

4) Compute $\arcsin\left(\sin(\pi)\right)$ and show all your work.