Math 229 Quiz 8a

You may use only Julia or `math229.github.io` – no other websites.

NAME: Solutions

Problem 1. $f(x) = \tan(x/6)\cos(x - 0.7)$, for $0 \le x \le 2\pi$.

Find the x-coordinates in this interval for the following points, accurate to five decimal places.

a. Points where $f'(x) = 0$:

1.35291

4.16834

b. Points where $f(x) = f'(x)$:

0.86745

3.28307

Problem 2. $g(x) = x^5 - \dfrac{1}{3x^2 - 4}$.

a. Find the approximate derivative at $x = 1.4$ with $h = 0.1$.

23.83789

b. Find the x-coordinate where the tangent line to $y = g(x)$ at $x = -2$ intersects with the x–axis, accurate to five decimal places.

-1.59749

Math 229 Quiz 8b

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NAME: Solutions

Problem 1. $f(x) = \tan(x/7)\cos(x - 0.6)$, for $0 \le x \le 2\pi$.

Find the x-coordinates in this interval for the following points, accurate to five decimal places.

a. Points where $f'(x) = 0$:

1.27567
4.04426

b. Points where $f(x) = f'(x)$:

0.82283
3.17424
6.26762

Problem 2. $g(x) = x^6 - \dfrac{1}{4x^2 - 6}$.

a. Find the approximate derivative at $x = 1.4$ with $h = 0.1$.

40.71234

b. Find the x-coordinate where the tangent line to $y = g(x)$ at $x = -2$ intersects with the x–axis, accurate to five decimal places.

−1.66746