

Math 229 Quiz 6a

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

NAME: Solutions

1. Compute the following limits. Round answers to 4 decimal places.

$$(a) \lim_{x \rightarrow 2} \frac{\cos(2x^2 + \pi/4) \sin(x - 2)}{x - 2} = \underline{-0.8025}$$

$$(b) \lim_{x \rightarrow 3} \frac{\log((x - 3)^2 + x - 2)}{x - 3} = \underline{1.0000}$$

$$(c) \lim_{x \rightarrow 0} (\cos(x))^{(5/x^2)} = \underline{0.0821}$$

2. Compute the EXACT answer (symbolically) for the following limits.

$$(a) \lim_{x \rightarrow 0} (\cos(x))^{(5/x^2)} = \underline{e^{-5/2}}$$

$$(b) \lim_{x \rightarrow 0^+} \sqrt{\frac{2}{x}} \sin\left(\frac{\sqrt{x}}{3}\right) = \underline{\sqrt{2}/3}$$

Math 229 Quiz 6b

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NAME: Solutions

1. Compute the following limits. Round answers to 4 decimal places.

$$(a) \lim_{x \rightarrow 4} \frac{\cos(3x^2 + \pi/3) \sin(x - 4)}{x - 4} = \underline{0.3453}$$

$$(b) \lim_{x \rightarrow 2} \frac{\log((x - 2)^2 + 2x - 3)}{x - 2} = \underline{2.0000}$$

$$(c) \lim_{x \rightarrow 0} (\cos(x))^{(3/x^2)} = \underline{0.2231}$$

2. Compute the EXACT answer (symbolically) for the following limits.

$$(a) \lim_{x \rightarrow 0} (\cos(x))^{(3/x^2)} = \underline{e^{-3/2}}$$

$$(b) \lim_{x \rightarrow 0^+} \sqrt{\frac{3}{x}} \sin\left(\frac{\sqrt{x}}{2}\right) = \underline{\sqrt{3}/2}$$