

# Math 2315 - Calculus 2

Quiz #3 - 2022.02.21

Name: \_\_\_\_\_

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1. Evaluate the following trigonometric functions at the given angles.

(a)  $\sin(11\pi/3) =$

(b)  $\cos(-4\pi/3) =$

(c)  $\csc(7\pi/2) =$

(d)  $\tan(3\pi/4) =$

2. Evaluate the following inverse trigonometric functions at the given side length ratios.

(a)  $\cos^{-1}(1/2) =$

(b)  $\sin^{-1}(-1/\sqrt{2}) =$

(c)  $\tan^{-1}(-1/\sqrt{3}) =$

(d)  $\csc^{-1}(2) =$

3. Compute the following integrals:

(a)  $\int 2z^5 \cos(z^2) dz$

(b)  $\int \frac{x+1}{\sqrt{4+x^2}} dx$

(c)  $\int \frac{\cos(w)}{\sin^2(w)(3+4\sin(w))} dw$

4. Compute the following limits:

(a)  $\lim_{x \rightarrow 0^+} \tan(x) \ln(x)$

(b)  $\lim_{x \rightarrow 0} \frac{\tan^{-1}(3x)}{\sin(2x)}$

5. Derive the formula for the derivative of  $\sin^{-1}(x)$  using implicit differentiation.