Calculus ex05 **8, May, 2019**

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⟵ Please encode your student number, and write your first and last names below.

First name and last name:

Questions with a ♣ may have zero, one or more right answers.

Question 1 ♣ Evaluate primitive value of $\arcsin\left(-\frac{1}{\sqrt{2}}\right)$.

○ $-\frac{\pi}{3}$ ○ $-\frac{7\pi}{6}$ ○ $-\frac{5\pi}{4}$ ○ $-\frac{2\pi}{3}$ ○ $-\frac{3\pi}{4}$ ● $-\frac{\pi}{4}$
○ $-\frac{5\pi}{6}$ ○ $-\pi$ ○ $-\frac{\pi}{2}$ ○ *None of these answers are correct.*

Question 2 ♣ Evaluate primitive value of $\arccos\left(\frac{\sqrt{3}}{2}\right)$.

○ $-\frac{\pi}{2}$ ○ 0 ○ $-\frac{\pi}{3}$ ○ $-\frac{2\pi}{3}$ ○ $-\frac{3\pi}{4}$ ● $\frac{\pi}{6}$ ○ $-\frac{\pi}{6}$
○ $-\frac{5\pi}{6}$ ○ $-\frac{\pi}{4}$ ○ *None of these answers are correct.*

Question 3 ♣ Evaluate primitive value of $\arctan(1)$.

○ $\frac{\pi}{3}$ ○ $\frac{3\pi}{4}$ ○ $\frac{7\pi}{6}$ ○ $\frac{5\pi}{4}$ ○ $\frac{2\pi}{3}$ ○ $\frac{\pi}{2}$ ○ $\frac{5\pi}{6}$
● $\frac{\pi}{4}$ ○ π ○ *None of these answers are correct.*

Question 4 ♣
Find the derivative $f'(x)$ of $f(x) = \arcsin\left(\frac{x}{2}\right)$.

○ $\frac{1}{\sqrt{1-\frac{x^2}{4}}}$ ● $\frac{1}{\sqrt{4-x^2}}$ ○ $\frac{\arccos\left(\frac{x}{2}\right)}{2}$ ● $\frac{1}{2\sqrt{1-\frac{x^2}{4}}}$ ○ $\arccos\left(\frac{x}{2}\right)$
○ *None of these answers are correct.*

Question 5 ♣
Find the derivative $f'(x)$ of $f(x) = \arccos\left(\frac{x}{\sqrt{3}}\right)$.

○ $-\frac{\arcsin\left(\frac{x}{\sqrt{3}}\right)}{\sqrt{3}}$ ○ $-\frac{1}{\sqrt{1-\frac{x^2}{3}}}$ ● $-\frac{1}{\sqrt{3}\sqrt{1-\frac{x^2}{3}}}$ ○ $-\arcsin\left(\frac{x}{\sqrt{3}}\right)$
● $-\frac{1}{\sqrt{3-x^2}}$ ○ *None of these answers are correct.*

Question 6 ♣
Find the derivative $f'(x)$ of $f(x) = \arctan\left(\frac{x}{7}\right)$.

○ $\frac{1}{\frac{x^2}{49}+1}$ ○ $\frac{1}{7\cos^2\left(\frac{x}{7}\right)}$ ● $\frac{1}{7\left(\frac{x^2}{49}+1\right)}$ ● $\frac{7}{x^2+49}$ ○ $\frac{1}{\cos^2\left(\frac{x}{7}\right)}$
○ *None of these answers are correct.*