Calculus ex05 **8, May, 2019**

○0 ○0 ○0 ○0 ○0 ○0 ○0 ○0
○1 ○1 ○1 ○1 ○1 ○1 ○1 ○1
○2 ○2 ○2 ○2 ○2 ○2 ○2 ○2
○3 ○3 ○3 ○3 ○3 ○3 ○3 ○3
○4 ○4 ○4 ○4 ○4 ○4 ○4 ○4
○5 ○5 ○5 ○5 ○5 ○5 ○5 ○5
○6 ○6 ○6 ○6 ○6 ○6 ○6 ○6
○7 ○7 ○7 ○7 ○7 ○7 ○7 ○7
○8 ○8 ○8 ○8 ○8 ○8 ○8 ○8
○9 ○9 ○9 ○9 ○9 ○9 ○9 ○9

⟵ 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 [itrig01] ♣ Evaluate primitive value of $\arcsin\left(-\frac{1}{\sqrt{2}}\right)$.

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

Question [itrig02] ♣ Evaluate primitive value of $\arccos\left(\frac{\sqrt{3}}{2}\right)$.

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

Question [itrig03] ♣ Evaluate primitive value of $\arctan(1)$.

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

Question [diff16] ♣
Find the derivative $f'(x)$ of $f(x) = \arcsin\left(\frac{x}{2}\right)$.

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

Question [diff17] ♣
Find the derivative $f'(x)$ of $f(x) = \arccos\left(\frac{x}{\sqrt{3}}\right)$.

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

Question [diff18] ♣
Find the derivative $f'(x)$ of $f(x) = \arctan\left(\frac{x}{7}\right)$.

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