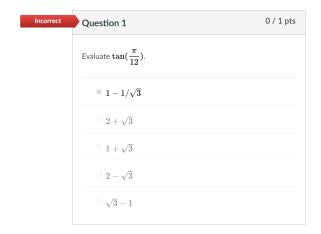
Part 1



Incorrect	Question 2	0 / 1 pts
	The population of germs in a container is known to grexponentially. A single germ is placed in the container and 10 germs were observed one hour later. How ma hours are needed to see 1000 germs in this container	initially, ny more
	© 2	
	○ ln 1000 − ln 10	
	○ ln 1000	
	○ ln 1000 − 1	
	3	

Incorrect	Question 3	0 / 1 pts
	Let f be an odd function. Which of the following is a even function? (I) $ f $ (II) $-f$ (III) f^2	ilways an
	(I), (II) and (III) are always even	
	(I) and (II) only	
	(I) and (III) only	
	(II) and (III) only	
	none of them is always even	

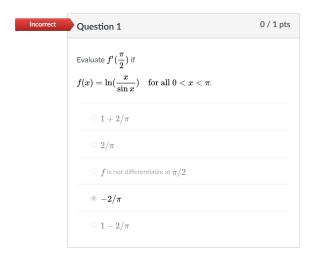
Incorrect	Question 4	0 / 1 pts
	Let f be the function defined by $f(x)=\frac{x}{x+1} \text{for all } x\ne -1,$ and f^{-1} is its inverse function. Compute $f^{-1}\circ f^{-1}$ (2).
	○ 2	
	○ 1	
	• -2	
	○ 2/3	
	○ -2/3	

	•	
Incorrect	Question 1	0 / 1 pts
	Evaluate $\lim_{x \to +\infty} \frac{\sqrt{x^4+1}-1}{\sqrt{x^4+1}+1}$ if it exists.	
	O -4	
	O 0	
	0 4	
	® -1	
	O 1	

Incorrect	Question 2	0 / 2 pts
	Evaluate the limit $\lim_{x\to 0} \frac{e^x-1-x}{\sin^2 x}$ if it exists.	
	0 1	
	O 0	
	o does not exist	
	○ 2	
	○ 1/2	

Question 3	1 / 1 pts
Evaluate the limit	
$\lim_{x\to +\infty} e^{-x} \sin(e^x)$	
if it exists.	
O -1	
O 1	
$\bigcirc +\infty$	
⊚ 0	
\circ $-\infty$	

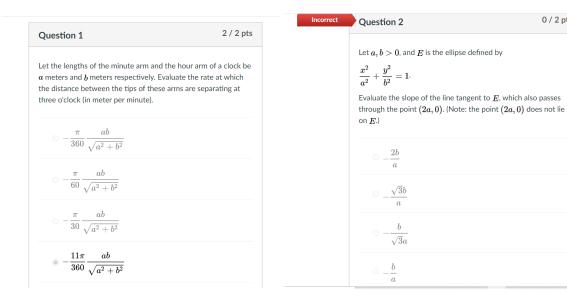
Part 3



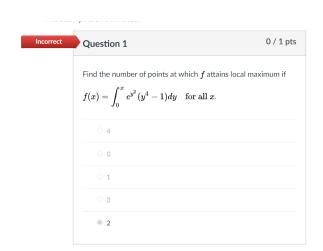
Incorrect	Question 2	0 / 1 pts
	Evaluate $f'(0)$ if $f(x) = (\sqrt{x^2+1}+1)^2 ext{for all } x.$	
	● 8	
	O 4	
	0 0	
	O 1	
	O 2	

Question 3	0 / 1 pts
Evaluate the second derivative $f''(0)$ if $f(x)=xe^{-x}$	
O 2	
○ -2	
O 1	
O -1	
◎ 0	
	Evaluate the second derivative $f''(0)$ if $f(x)=xe^{-x}$

Part 4

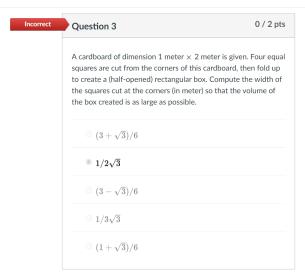


Part 5



Question 2	1 / 1 pts
Let $f(x) = x^2(1-x) ext{for all } x.$ Find the interval on which f is increasing.	
$ [0, \frac{2}{3}] $	
of is a decreasing function	
$\bigcirc (-\infty, \frac{2}{3})$	
$\bigcirc \left[\frac{2}{3},+\infty\right)$	
${}^{\bigcirc}\;[0,+\infty)$	

0 / 2 pts



Incorrect	Question 1	0 / 1 pts
	Evaluate the integral $\int_{-1}^{1} e^{x}-1 dx$	
	○ e+1/e-2	
	O e-1/e+2	
	⊚ e-1/e	
	© e-1/e-2	
	O e+1/e+2	

Incorrect	Question 2	0 / 1 pts
	Evaluate the integral $\int_1^e \frac{\ln x}{x} dx.$	
	O 1	
	$^{\odot}~1/e^2$	
	$\bigcirc \frac{1}{2}$	
	$^{\circ}$ $1-1/e^2$	
	$\odot~rac{1}{2}(1-1/e^2)$	

Incorrect	Question 3	0 / 1 pts
	Evaluate the integral	
	$\int_0^{\pi/2} \sin(2x) \cos^2(2x) dx \cdot$	
	π	
	$2\pi/3$	
	O 1/3	
	π/3	
	○ 2/3	