



Use the rules of differentiation to find the derivative of the function.

$$y = \frac{\pi}{2} \cos(\theta) - \sin(\theta)$$

*y*' =

7. LarCalc9 2.2.022. [1047637] Question Details Use the rules of differentiation to find the derivative of the function.  $y = 5 + 5\sin(x)$ y'(x) =Question Details LarCalc9 2.2.024. [1196733] 8. Use the rules of differentiation to find the derivative of the function.  $y = \frac{8}{(3x)^3} + 2\cos(x)$ *y*′ = 9. Question Details LarCalc9 2.2.025. [1197521] Complete the table. Original Function  $\gamma = \frac{8}{3x^2}$ *y* = Rewrite х y' =Differentiate y' =Simplify Question Details LarCalc9 2.2.026.MI. [1267209] 10. Find the derivative.  $y = \frac{7}{4x^9}$ y ' = 11. Question Details LarCalc9 2.2.028. [1197345] Complete the table. π y = -**Original Function**  $(8x)^{2}$ Rewrite х Differentiate Simplify

2.	Question Details	LarCalc9 2.2.029. [1197172]
	Complete the table.	
	Original Function $\frac{9\sqrt{x}}{3}$	
	$\begin{array}{c} \text{Rewrite} & y = \\ \hline x \\ \hline \end{array}$	
	Differentiate y' =	
	Simplify $y' =$	
3.	Question Details	LarCalc9 2.2.030. [1196667]
	Find the derivative.	
	Original Function $y = \frac{2}{x^{-4}}$	
	Rewrite	
	Differentiate	
	Simplify	
	results. $f(t) = 2 - \frac{9}{5t},  \left(\frac{3}{4}, \frac{-2}{5}\right)$ f'(3/4) =	
i.	Question Details	LarCalc9 2.2.037. [1047696]
	Find the slope of the graph of the function at the given p results. $f(\theta) = 7 \sin(\theta) - \theta,  (0, 0)$ $f'(0) = $	point. Use the <i>derivative</i> feature of a graphing utility to confirm your
5.	Question Details	LarCalc9 2.2.040. [1047623]
	Find the derivative of the function.	
	$f(x) = 2x^2 + 2x$	
	$f(x) = 3x^2 - 3x - 5x^{-2}$	
	$f(x) = 3x^2 - 3x - 5x^2 - 5x$	

17.
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LarGel 9 2.2.041, [1197512]

18.
Find the derivative of the function.

g(t) = t<sup>2</sup> - 
$$\frac{3}{t^3}$$
g(t) =

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19.
Cars2.2.046.

LarCalc9 2.2.054.MI. [1250728]

23. Question Details

Find the derivative of the function.

 $f(x) = \frac{2}{\sqrt[3]{x}} + 7\cos x$ f'(x) =24. Question Details LarCalc9 2.2.054.MI.SA. [1419775] This question has several parts that must be completed sequentially. If you skip a part of the question, you will not receive any points for the skipped part, and you will not be able to come back to the skipped part. **Tutorial Exercise** Find the derivative of the function.  $f(x) = \frac{7}{\sqrt[3]{x}} + 6\cos x$ 25. Question Details LarCalc9 2.2.062.MI. [1196731] Determine the point at which the graph of the function below has a horizontal tangent line. (If an answer does not exist, enter DNE.)  $y = 8x^2 + 1$ (*x*, *y*) = (

26. Question Details

LarCalc9 2.2.062.MI.SA. [1420084]

This question has several parts that must be completed sequentially. If you skip a part of the question, you will not receive any points for the skipped part, and you will not be able to come back to the skipped part.

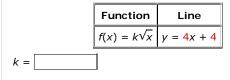
## **Tutorial Exercise**

Determine the point at which the graph of the function below has a horizontal tangent line.

 $y = 3x^2 + 9$ 

27. Question Details LarCalc9 2.2.064. [1531272] Determine the point(s) (if any) at which the graph of the function has a horizontal tangent line.  $y = \sqrt{3}x + 2\cos(x), 0 \le x < 2\pi$ **STEP 1**: Find a derivative y'. **STEP 2**: Set y' = 0 and solve for x. (smaller x-value)  $x_1 =$ (larger x-value)  $x_2 =$ **STEP 3**: Find the y values by substituting the values from Step 2 into the original function.  $y_1$  corresponds to  $x_1$  and  $y_2$ corresponds to x<sub>2</sub>. List the points where the function has horizontal tangent lines. Submit your answers in terms of pi for  $\pi$ .  $(x_1, y_1) = ($ )  $(x_2, y_2) = ($ ) 28. Question Details LarCalc9 2.2.068.MI. [1196717]

Find k such that the line is tangent to the graph of the function.



## Assignment Details

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