



Speed Dating



Review Game



Date 1

Differentiate using any method we have studied.

1. $f(x) = 4x^7 - 11\sqrt[5]{x^3} + 2e^x$

2. $y = (3x - 7) \cdot \tan x$

3. $y = \frac{2x^2 - 5}{3x^3}$

Date 2

Functions f and g are differentiable functions of x .

x	$f(x)$	$f'(x)$	$g(x)$	$g'(x)$
1	1	2	3	-1
2	3	$\frac{3}{2}$	2	-1
3	4	0	1	$\frac{1}{2}$
4	3	-1	3	2

Part 1) Given $h_1(x) = f(x) + g(x)$, find $h_1'(4)$

Part 2) Given $h_2(x) = f(x) - g(x)$, find $h_2'(4)$

Part 3) Given $h_3(x) = f(x) \cdot g(x)$, find $h_3'(2)$

Part 4) Given $h_4(x) = \frac{f(x)}{g(x)}$, find $h_4'(3)$

Date 3

A graph of velocity $v(t)$ is provided. Given that acceleration is the rate of change in velocity

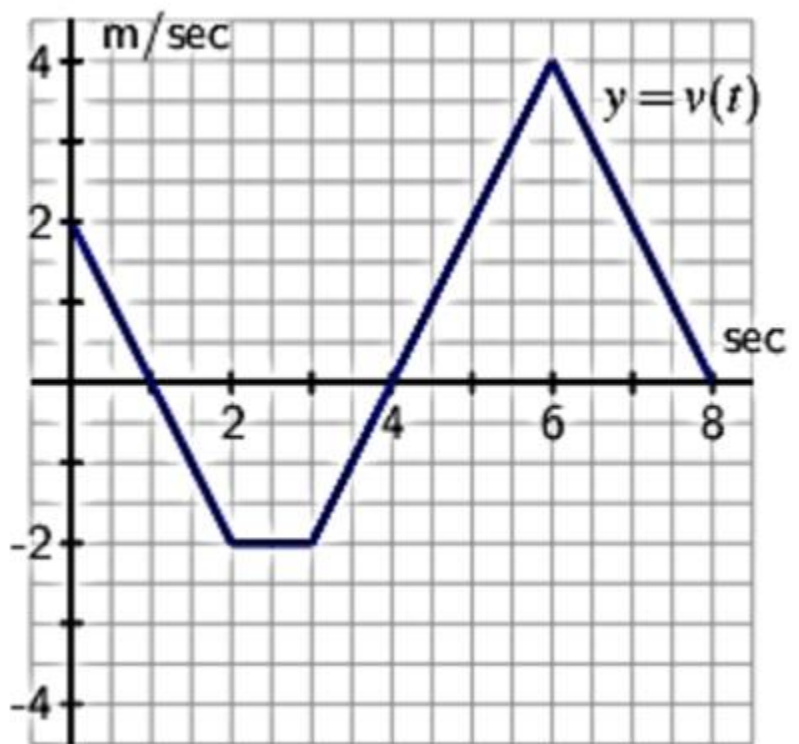
$[a(t) = v'(t)]$, find each value.

a. $a(1)$

b. $a(2)$

c. $a(2.5)$

d. $a(5)$



Date 4

Calculator Active:

Given $f(x) = x^2 + 3x - 1$:

1. Find the average rate of change on $[0, 1]$.
2. Find $f'(0.25)$.

Date 5

Calculator Active: The number of minutes, $m(x)$, that Hayden has spent playing Mario Kart Tour has been recorded over selected one-hour periods throughout his day. Use the data in the table to estimate $m'(4)$ and interpret its meaning in context, including units.

x (hours since waking)	2	3	5	8
m(x) (number of minutes played)	18	45	33	59

Date 6

Differentiate using any method we have studied.

1. $y = (3x^2 - 2x)(4x^2 + 2x - 4)$

2. $y = x \ln x + 3 \cos x$

3. $f(x) = \frac{2x^2 - 5}{3x^3 - 7x}$

Date 7

Write the equation of the line tangent to the curve
 $f(x) = 3\sqrt{x}$ at $x = 9$.

Date 8



****Calculator Active:**

1. Given $f(x) = \log_2(5x - 3)$, find $f'(2)$.

2. Find the slope of the curve $y = 3x^3 - 2x^2 - x$ at the point where $x = 2$.

Date 9



Evaluate each limit.

1. $\lim_{h \rightarrow 0} \frac{\sqrt{x+h} - \sqrt{x}}{h}$

2. $\lim_{x \rightarrow 1} \frac{(6x^2 - 3x + 4) - 7}{x - 1}$

Date 10

Determine whether the function is differentiable at $x = 2$.

$$f(x) = \begin{cases} 3x + 4, & x < 2 \\ x^2 + 3x, & x \geq 2 \end{cases}$$

