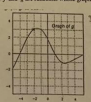
5. Considering that $P(x) = F(x)G(x)$ y $Q(x) = F(x)/G(x)$, where F and G are functions whose graphs are shown below.

a) Find $P'(2)$ b) Find $Q'(7)$

6. Consider that $h(x) = f(g(x))$, find $h'(-1)$, $h'(0)$ and $h'(1)$

x	$f(x)$	$f'(x)$	$g(x)$	$g'(x)$
-1	2	1	1	2
0	-1	0	-1	3
1	2	-1	0	5

7. Consider that $h(x) = f(x)/g(x)$, where f and g are functions whose graphs are shown below.



a) Evaluate h'(-2) and h(3)
b) Is h'(-3) positive, negative or zero? Explain your answer.
c) Is h'(-1) positive, negative or zero? Explain your answer.

Prepa Tec
Calculus I 2nd partial
Quiz # 2A

Name Faisal Fernández del Bosque Mat. A01510170

I. Determine if true or false for each of the following statements (5 points each)

1. (True) The derivative of $y = 6 - e^{-x}$ is $y' = e^{-x}$

2. (False) The derivative of $y = Ln(x-4)^5$ is $y' = \frac{1}{5}Ln(x-4)^5$

3. (True) If $s(t)$ is the function of position of an object in motion, then $a(t) = s''(t)$ is equal to the function of the acceleration of the object.

4. (False) If the velocity of the car is a function of time, then the derivative of this function with respect to time, describes the acceleration of the car.

II. Circle the right answer. (10 point each)

1. (C) The derivative for $y = 2e^{2x}$ is:

A) $y' = 2e^{2x}$ B) $y' = 2e^{x}$ C) $y' = -\frac{6e^{\frac{1}{x}}}{x^2}$ D) $y' = 6x^2e^{3x^2}$

2. (A) The derivative for $y = Ln\sqrt{2x-4}$ is:

A) $y' = \frac{1}{2x-4}$ B) $y' = \frac{1}{5}Ln(2x-4)^5$

C) $y' = \frac{1}{2}Ln\frac{2}{\sqrt{2x-4}}$ D) $y' = \frac{1}{x-2}$

3. (D) If the equation that gives the velocity of an object is $v(t) = 2t^2e^{3t}$, then the equation that gives the acceleration is:

A) $a(t) = 6t^2e^{3t}(2t+1)$ B) $a(t) = 6t^2e^{3t}$

C) $a(t) = 36t^2e^{3t}$ D) $a(t) = 12t^2e^{3t}$

More on rules of derivatives
By: Designing team

Name: Faisal Fernández del Bosque Id: A01510170 Date:

1. If $f(5) = 1$, $f'(5) = 6$, $g(5) = -3$, $g'(5) = 2$. Find the values of

a) $(f \cdot g)'(5)$
b) $(f/g)'(5)$
c) $(g/f)'(5)$

2. If $f(3) = 4$, $g(3) = 2$, $f'(3) = -6$ and $g'(3) = 5$, find the following values

a) $(f+g)'(3)$
b) $(f \cdot g)'(3)$
c) $(f/g)'(3)$

3. If $h(x) = f(x)g(x)$, use the table to find $h'(-1)$, $h'(0)$ and $h'(1)$

x	$f(x)$	$f'(x)$	$g(x)$	$g'(x)$
-1	2	1	1	2
0	-1	0	-1	3
1	2	-1	0	5

4. If $h(x) = f(x)/g(x)$, use the table to find $h'(-1)$, $h'(0)$ and $h'(1)$

x	$f(x)$	$f'(x)$	$g(x)$	$g'(x)$
-1	2	1	1	2
0	-1	0	-1	3
1	2	-1	2	5