08/12/22

Exercice n°1

1) $f'(x) = 0$
2) $g'(x) = 8 \times 2x = 16x$
3) $h'(x) = 9 \times 3x^2 = 27x^2$
4) $P'(x) = -6$
5) $q'(x) = 4 \times 3x^2 - 7 \times 2x = 12x^2 - 14x$
6) $q'(x) = 6 \times 2x + 2 = 12x + 2$

Exercice n°2

$f(-2) = 3 \times (-2)^3 + 4 \times (-2)^2 + 3 \times (-2) - 1 = -15$

x	-2	-1	0	1	3	5
$f(x)$	-15	-3	-1	9	125	489

Exercice n°3

1) $f'(x) = -3 \times 2x - 18 \times 1 + 0$

$f'(x) = -6x - 18$.

2) $-6x - 18 = 0$

$-6x = 18$.

$x = \frac{18}{-6} = -3$.

3)

x	-5		-3		4
$f'(x)$		$+$	ϕ	$-$	
$f(x)$	22	↗	34	↘	-113.

$f(-5) = -3 \times (-5)^2 - 18 \times (-5) + 7$

$= -75 + 50 + 7 = 22$.

4) Le maximum est 34, et il atteint lorsque x vaut -3.

Exercice n°4

1) $f(-0,5) = 0$ $f(4) = 1,5$.

$f(-2) = 1$

2) $f(-2) = f(2,5) = 1$.

Exercice n°5

$u_1 = 2 + 5 = 7$;

$u_2 = 2 + 7 = 9$; $u_3 = 2 + 9 = 11$ et $u_4 = 2 + 11 = 13$.

Exercice n°6

$v_1 = 6 \times 2 = 12$; $v_2 = 6 \times 12 = 72$; $v_3 = 6 \times 72 = 432$

Exercice n°7:

$w_1 = 2 \times 5 + 3 = 13$; $w_2 = 2 \times 13 + 3 = 29$; $w_3 = 2 \times 29 + 3 = 6$

$w_4 = 2 \times 61 + 3 = 122 + 3 = 125$.