Differentiate the following with respect to x :(6x^5−3x^4−2x^3)

30x^4−12x^3−6x^2

6x^4−3x^3−2x^2

3x^3−2x^2

6x^4−3x^2

Solution:

We have if

$$f(x) = a * x^n$$

then

$$f'(x) = n * a * x^{n-1}$$
$$(f - g)'(x) = f'(x) - g'(x).$$

So we have

$$F(x) = 6x^5 - 3x^4 - 2x^3$$

Hence

$$F'(x) = 5 * 6 * x^4 - 4 * 3 * x^3 - 3 * 2 * x^2 = 30x^4 - 12x^3 - 6x^2$$

Answer: $30x^4 - 12x^3 - 6x^2$