

Answer on Question #47141 – Math – Differential Calculus | Equations

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