

Do each of the following parts with the polynomials $f(x) = 2x^5 - x^4 - 3x^3 + 18x^2 + 27$ and $g(x) = -9x^{100} - x^2 + 1$.

(a) Write the leading coefficient.

$f(x) \rightarrow 2$ $g(x) \rightarrow -9$

(b) List all of the (nonzero) terms. Below each term, write the coefficient by itself.

$f(x) \rightarrow 2x^5, -x^4, -3x^3, 18x^2, 27$ $g(x) \rightarrow -9x^{100}, -x^2, 1$
 $2 \quad -1 \quad -3 \quad 18 \quad 27$ $-9 \quad -1 \quad 1$

(c) What is the coefficient of x^4 in each polynomial? Of x^2 ?

$f(x): -1$ for x^4 $g(x): 0$ for x^4
 18 for x^2 -1 for x^2

Without using a calculator, calculate $P(0.1)$ for the following polynomials:

(a) $P(x) = 2 + 7x + 9x^2 + 8x^3 + 6x^6$

2.798006

(b) $P(x) = 18 + 2x^2 + 2x^3 + 2x^4$

18.0222

don't forget!!

(c) $P(x) = 7x + 5x^2 + x^3$

0.751

For each of the following decimal numbers, write a polynomial $P(x)$ such that $P(0.1)$ equals your number.

(a) 5.3734

$5 + 3x + 7x^2 + 3x^3 + 4x^4$

(b) 0.003627

$3x^3 + 6x^4 + 2x^5 + 7x^6$

(c) 2843.3294

$2843 + 3x + 2x^2 + 9x^3 + 4x^4$