Practica 1

1. Taylor orden 4 alrededor de 0

$$f(x) = \frac{e^x - e^{-x}}{2}$$

$f(x) = \frac{e^x - e^{-x}}{2}$ $\quad f(0) = 0$

$f'(x) = \frac{e^x + e^{-x}}{2}$ $\quad f'(0) = 1$

$f''(x) = \frac{e^x - e^{-x}}{2}$ $\quad f''(0) = 0$

$f'''(x) = \frac{e^x + e^{-x}}{2}$ $\quad f'''(0) = 1$

$f^{IV}(x) = \frac{e^x - e^{-x}}{2}$ $\quad f^{IV}(0) = 0$

$$a)(x) = x + \frac{x^3}{6}$$

2. A binario

a) 73_{10} =

÷	%
36	1
18	0
9	0
4	1
2	0
1	0
0	1

$= 1001001_2$

b) 131_{10}

÷	%
65	1
32	1
16	0
8	0
4	0
2	0
1	0
0	1

$= 10000011_2$

c) $0.25_{10} = 0.01000000000_2$

x
0.5
1.0
0.0
0 0
0 0
0 0
0 0
0 0
0 0
0 0

c) $1.312_b = 1.0100111111_2$

x
0.624
1.248
0.496
0.992
1.984
1.968
1.936
1.872
1.744
1.488

3. Realiza

a)
```
  10111101
+ 01110111
 100110100
```

b)
```
  11010
- 01001
  10001
```

c)
```
    11010
  ×   110
    00000
   11010
  11010
 10011100
```

d)
```
11110111101 | 101
101         | 11000
 00111
```

4. C_2, 8 bits.

a) 17 + 10:
```
  00010001
+ 00001010
  00011011
```
27

b) 17 - 10
= 17 + (-10)
$10C_2$ = 11110110
```
  00010001
+ 11110110
 100000111
```
7

c) -17 - 10 =

$17C_2$ = 11101111
$10C_2$ = 11110110
```
  11101111
+ 11110110
 111100101
```
C_2 → 00011011 = -27

5. Considera $f(x) = 2x^2 - 1$

a) Bisección [0, 1]

0.7

b) Raphson (número arbitrario en intervalo [0, 1])

0.7