• Resolva as equações abaixo:

a) $2^0 = 1$
b) $2^1 = 2$
c) $2^2 = 4$
d) $2^3 = 8$
e) $2^4 = 16$
f) $2^5 = 32$
g) $2^6 = 64$
h) $2^7 = 128$
i) $2^8 = 256$
j) $2^9 = 512$
k) $2^{10} = 1024$
l) $2^{11} = 2048$

• Resolva as equações abaixo:

a) $\log_2(2048) \Rightarrow 2048 = 2^x \rightarrow 2^{11} = 2^x \rightarrow x = 11$

b) $\log_2(1024) \Rightarrow 1024 = 2^x \rightarrow 2^{10} = 2^x \rightarrow x = 10$

c) $\log_2(512) \Rightarrow 512 = 2^x \rightarrow 2^9 = 2^x \rightarrow x = 9$

d) $\log_2(256) \Rightarrow 256 = 2^x \rightarrow 2^8 = 2^x \rightarrow x = 8$

e) $\log_2(128) \Rightarrow 128 = 2^x \rightarrow 2^7 = 2^x \rightarrow x = 7$

f) $\log_2(64) \Rightarrow 64 = 2^x \rightarrow 2^6 = 2^x \rightarrow x = 6$

g) $\log_2(32) \Rightarrow 32 = 2^x \rightarrow 2^5 = 2^x \rightarrow x = 5$

h) $\log_2(16) \Rightarrow 16 = 2^x \rightarrow 2^4 = 2^x \rightarrow x = 4$

i) $\log_2(8) \Rightarrow 8 = 2^x \rightarrow 2^3 = 2^x \rightarrow x = 3$

j) $\log_2(4) \Rightarrow 4 = 2^x \rightarrow 2^2 = 2^x \rightarrow x = 2$

k) $\log_2(2) \Rightarrow 2 = 2^x \rightarrow 2^1 = 2^x \rightarrow x = 1$

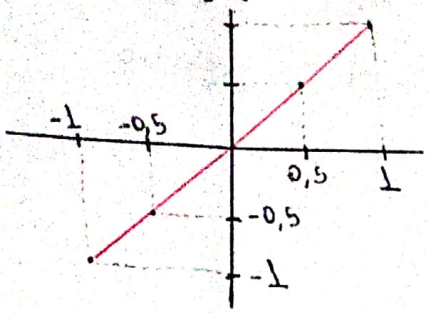
k) $\log_2(1) \Rightarrow 1 = 2^x \rightarrow 2^0 = 2^x \rightarrow x = 0$

• Resolva as equações abaixo:

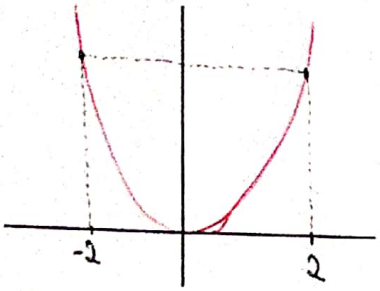
a) $\lceil 4,01 \rceil = 5$
b) $\lfloor 4,01 \rfloor = 4$
c) $\lceil 4,99 \rceil = 5$
d) $\lfloor 4,99 \rfloor = 4$
e) $\lceil \log_2(16) \rceil = 4$
f) $\lfloor \log_2(16) \rfloor = 4$
g) $\log_2(17) = 4,08$
h) $\lceil \log_2(17) \rceil = 5$
i) $\lfloor \log_2(17) \rfloor = 4$
j) $\log_2(15) = 3,90$
k) $\lceil \log_2(15) \rceil = 4$
l) $\lfloor \log_2(15) \rfloor = 3$

• Plote um gráfico com todas as funções abaixo:

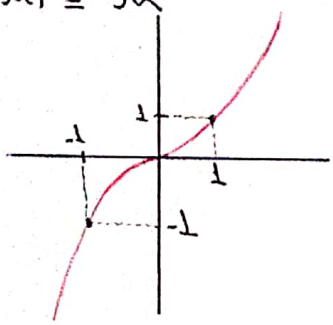
a) $F(x) = x$



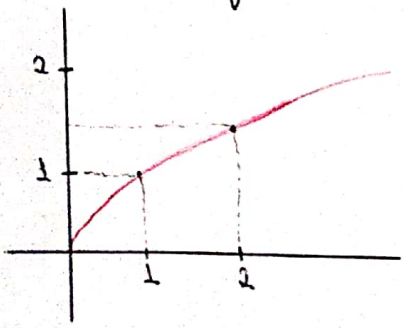
b) $F(x) = x^2$



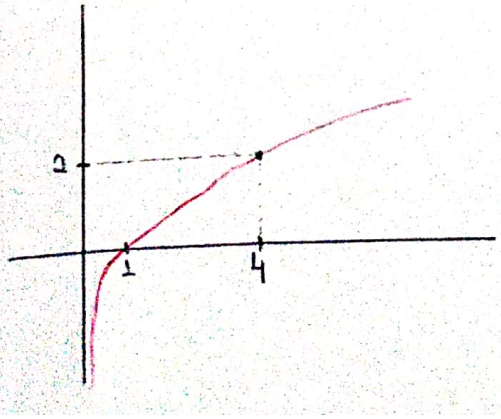
c) $F(x) = x^3$



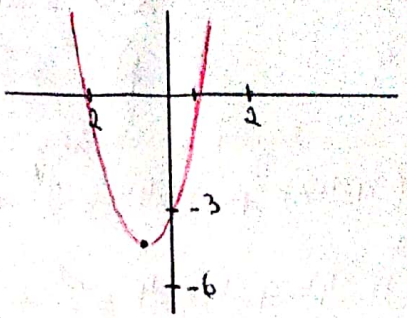
d) $F(x) = \text{sqrt}(x)$



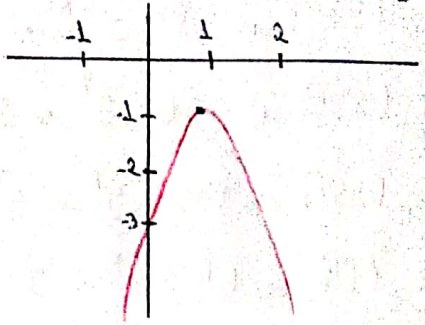
e) $F(x) = \lg(x) = \log_2(x)$



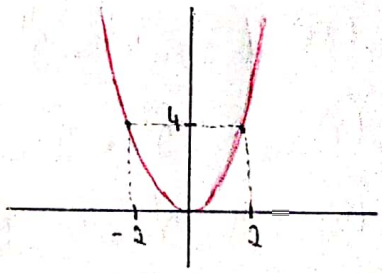
f) $F(x) = 3x^2 + 5x - 3$



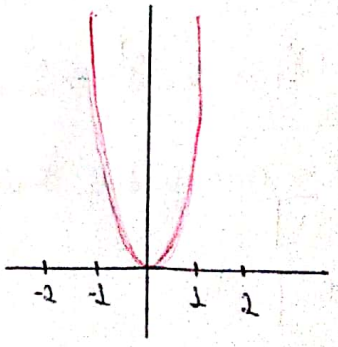
g) $F(x) = -3x^2 + 5x - 3$



h) $F(x) = |1 - x^2|$



i) $F(x) = 5x^4 + 2x^2$



j) $F(x) = x \cdot \lg(x)$