

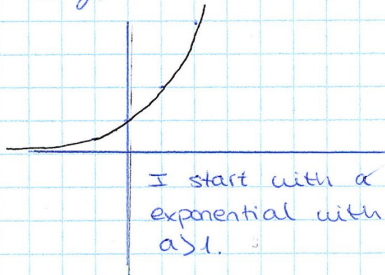
What to say in front of the blackboard - a brief tutorial

\* Exercise: Draw the graph of  $y = \left| \left| 2^{x-3} - 3 \right| - 1 \right|$   
 (each step separately)  
 State the domain and co-domain of each function).

Sandra Arias López  
 1 year EPM student

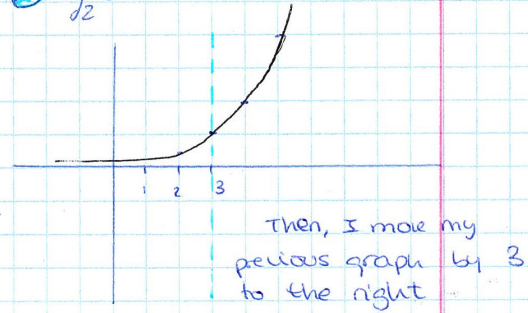
\* Solution:

①  $y_1 = 2^x$



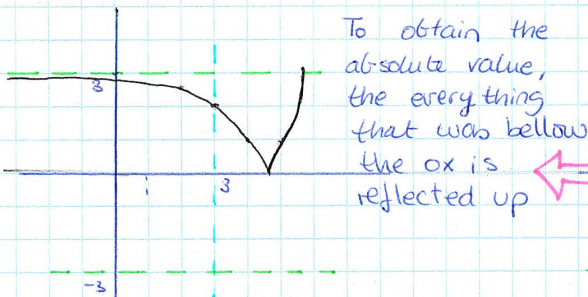
$D_{y_1}: \mathbb{R}$   
 $D_{y_1}^{-1}: (0, \infty)$

②  $y_2 = 2^{x-3}$



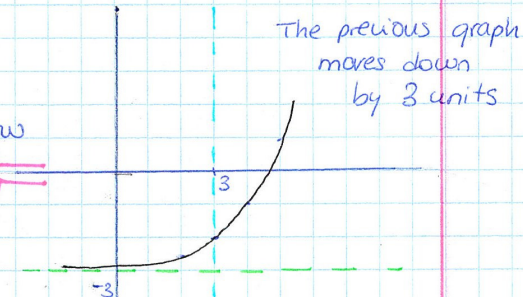
$D_{y_2}: \mathbb{R}$   
 $D_{y_2}^{-1}: (0, \infty)$

④  $y_4 = |2^{x-3} - 3|$



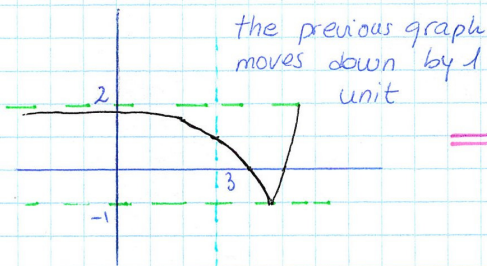
$D_{y_4}: \mathbb{R}$   
 $D_{y_4}^{-1}: (-\infty, \infty)$

③  $y_3 = 2^{x-3} - 3$



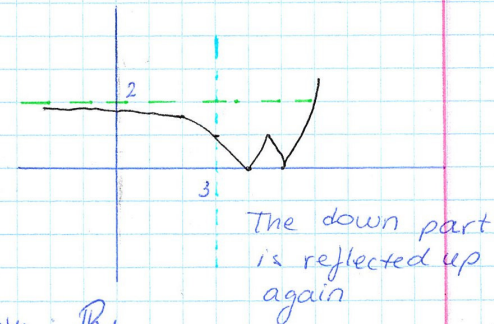
$D_{y_3}: \mathbb{R}$   
 $D_{y_3}^{-1}: (-3, \infty)$

⑤  $y_5 = |2^{x-3} - 3| - 1$



$D_{y_5}: \mathbb{R}$   
 $D_{y_5}^{-1}: (-1, \infty)$

⑥  $y_6 = \left| \left| 2^{x-3} - 3 \right| - 1 \right|$



$D_{y_6}: \mathbb{R}$   
 $D_{y_6}^{-1}: (0, \infty)$

What to say in front of the blackboard - a brief tutorial

Sandra Arias  
López

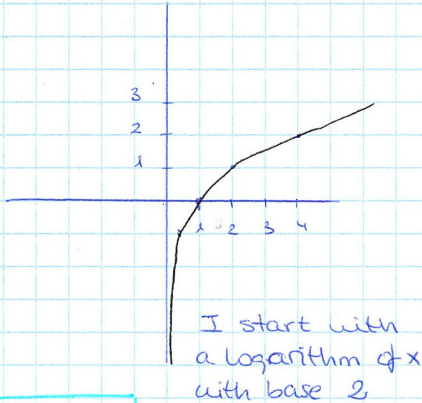
\* Exercise: Draw the graph of  $y = |\log_2(x+3)| + 1$   
(each step separately)  
State the domain and the co-domain of each function.

I EPM student

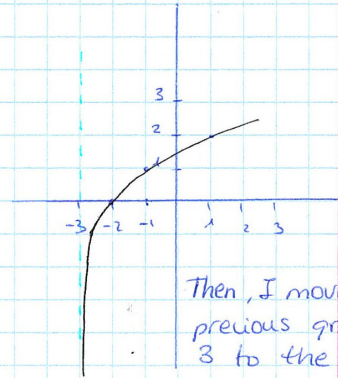
\* Solution:

①  $y_1 = \log_2 x$

②  $y_2 = \log_2(x+3)$



$D_{y_1}: (0, \infty)$   
 $\Delta y_1: \mathbb{R}$

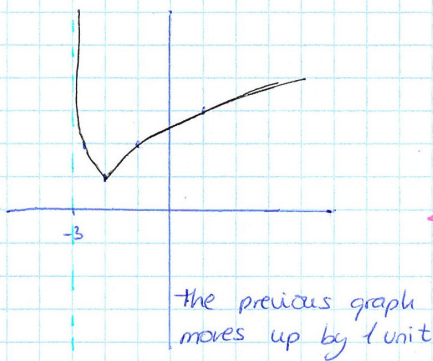


$D_{y_2}: (-3, \infty)$   
 $\Delta y_2: \mathbb{R}$

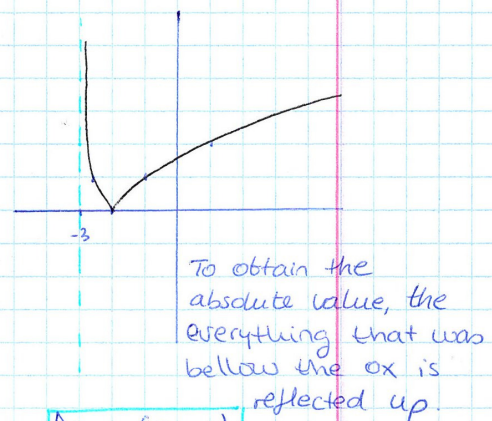


④  $y_4 = |\log_2(x+3)| + 1$

③  $y_3 = |\log_2(x+3)|$



$D_{y_4}: (-3, \infty)$   
 $\Delta y_4: (1, \infty)$



$D_{y_3}: (-3, \infty)$   
 $\Delta y_3: (0, \infty)$