Determining Exponential Equations

$y = 2^{-x}$

$= \frac{1}{2^x}$

$= \left(\frac{1}{2}\right)^x$

$y = 2^{x+1}$ $\quad a^x a^y = a^{x+y}$

$= 2^x (2^1)$

$= 2 \cdot 2^x$

$y = 2^{2x}$

$= (2^2)^x$

$= 4^x$

$(a^x)^y = a^{xy}$

$2^{x+5} = 2^x \cdot 2^5$

$= 32 \cdot 2^x$

$2^{x-5} = 2^x \cdot 2^{-5}$

$= \frac{1}{32} \cdot 2^x$

Apr 6-9:33 AM

Ex. 1. $y = a(b)^x + q$

$b = 3$, $q = -2$ $\Rightarrow y = a(3^x) - 2$

$(0, 5)$ on curve

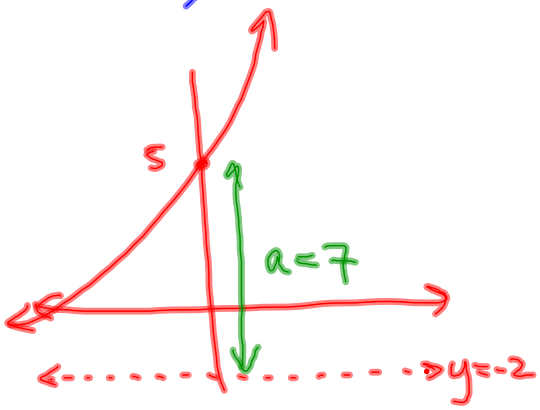
$x \quad y$

Sub $(0, 5)$

$5 = a(3^0) - 2$

$5 = a - 2$

$a = 7$ $\quad \therefore y = 7(3^x) - 2$



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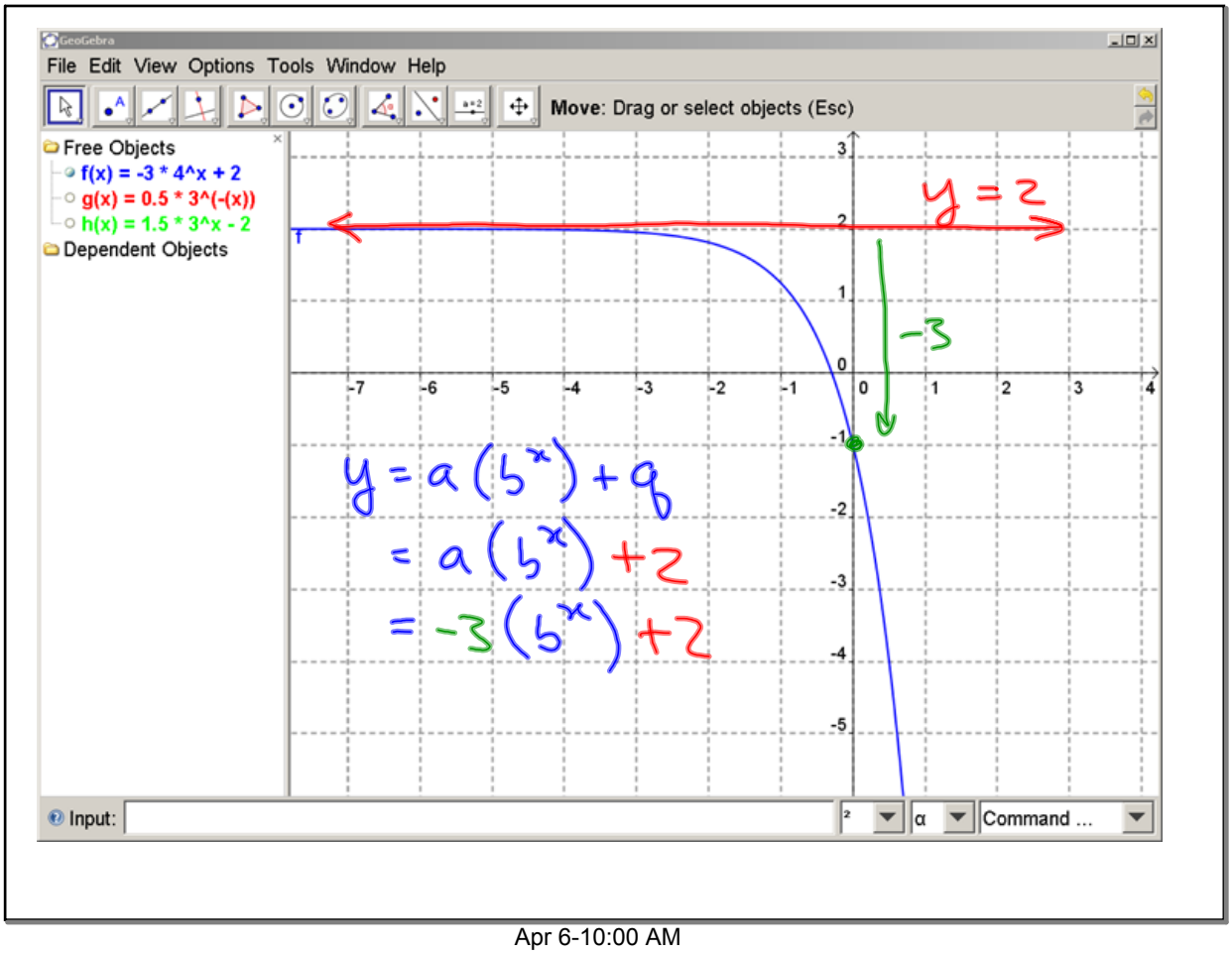

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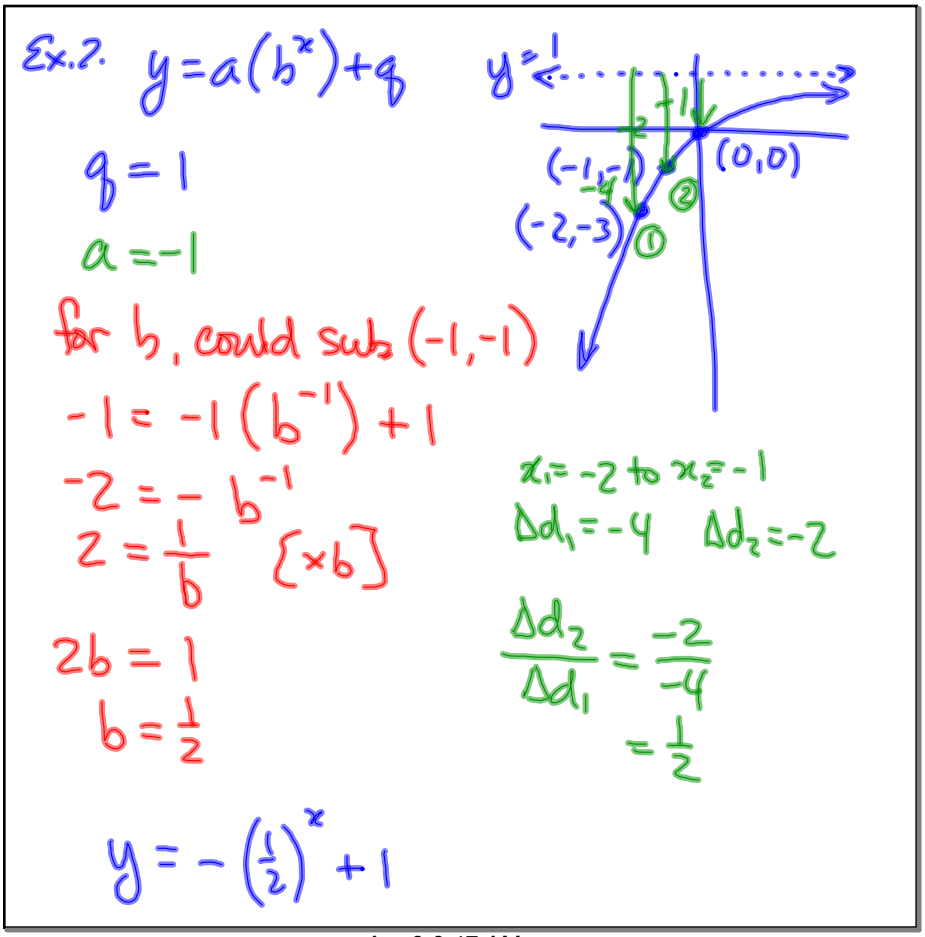

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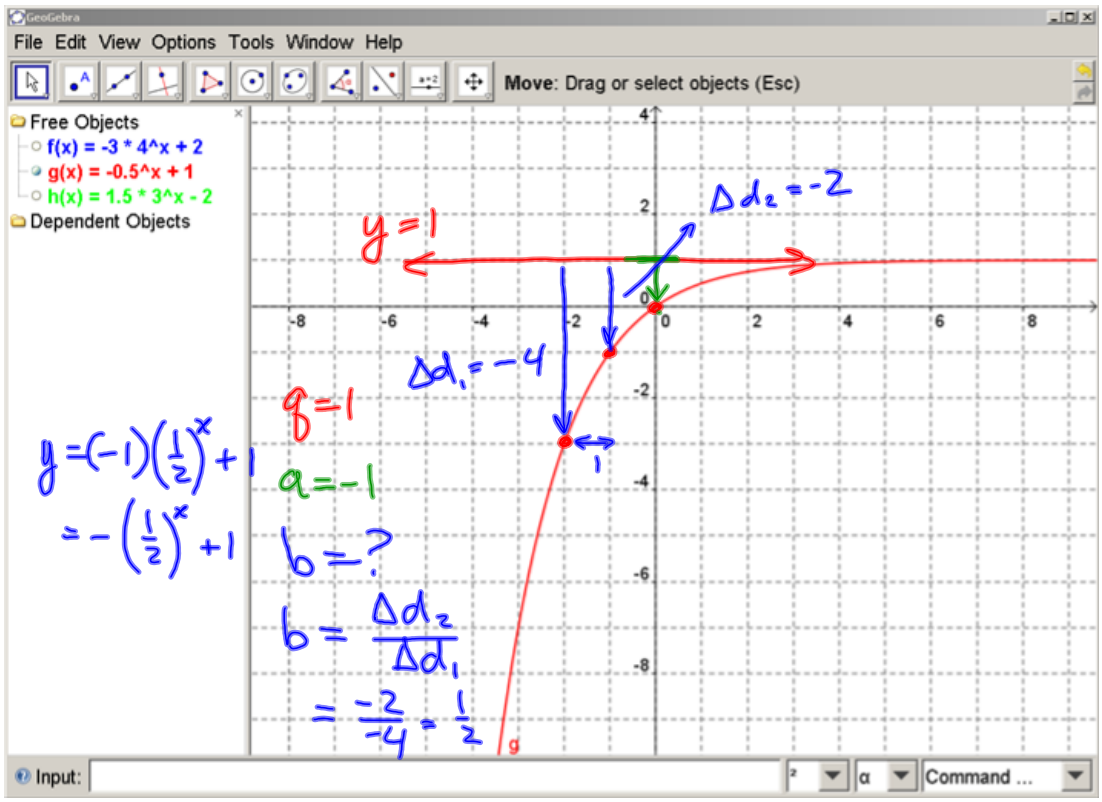

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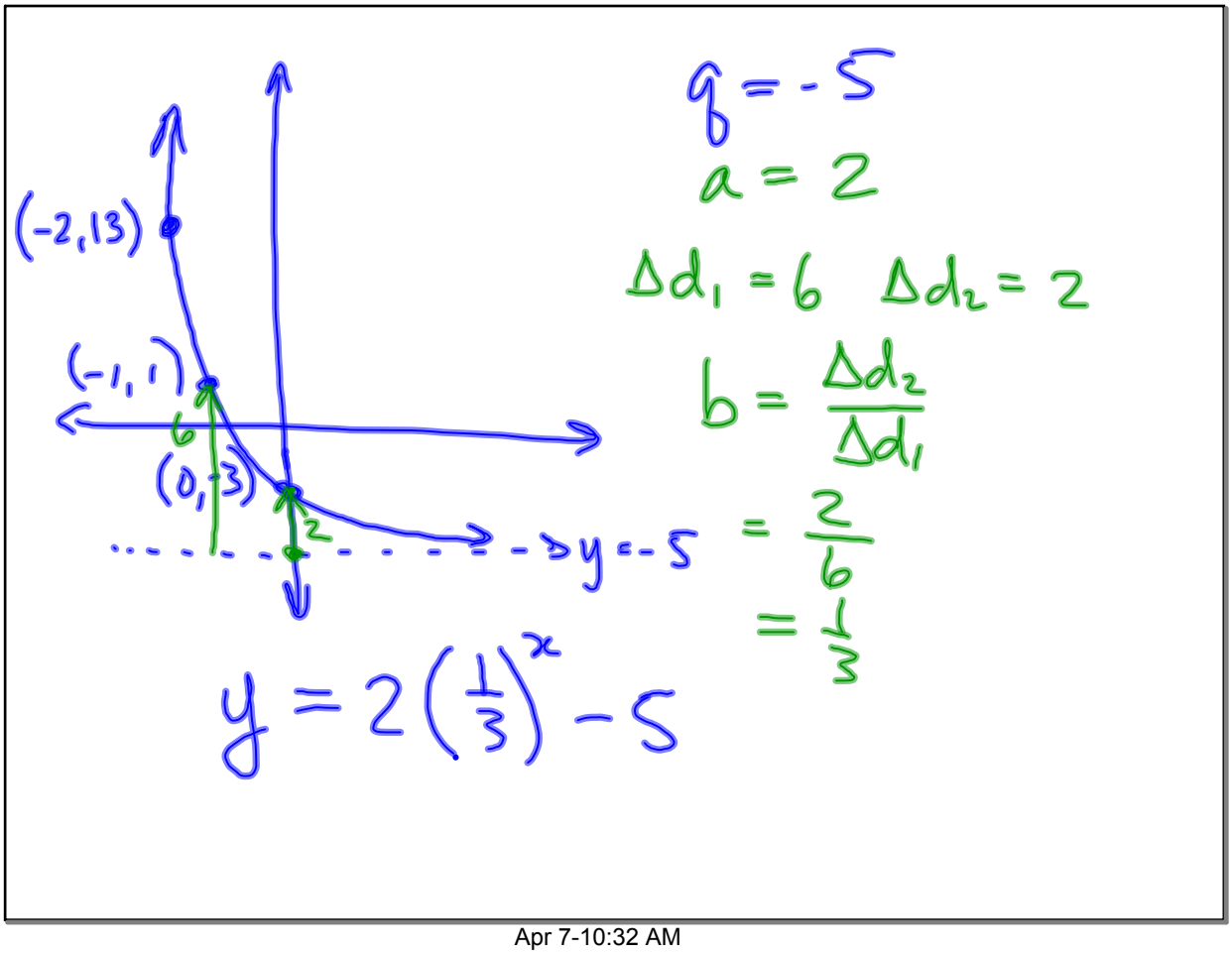

Apr 7-10:32 AM

3(b) $y = 4\left(\frac{1}{2}\right)^x + 3$

3(c) HA: $y = 6 \rightarrow q = 6$

y-int: $y = 1 \rightarrow a = -5$

$\Delta d_1 = -5 \quad \Delta d_2 = -20$

$b = \frac{-20}{-5}$

$= 4$

$y = -5(4)^x + 6$

Apr 7-10:36 AM