Log Review

$(3^5)^2 = 3^{10}$

1b) cross cancel

$$\left(25^{-3/2} + 2^{-1}\right)^{-1}$$

$$\left(\frac{1}{\sqrt{25^3}} + \frac{1}{2^1}\right)^{-1}$$

$$\left(\frac{2\cdot 1}{2\cdot 125} + \frac{125\cdot 1}{125\cdot 2}\right)^{-1}$$

$$\left(\frac{2}{250} + \frac{125}{250}\right)^{-1}$$

$$\left(\frac{127}{250}\right)^{-1}$$

$$= \frac{250}{127}$$

$\log_7 49 = \log_7 7^2 = 2$

$e^{3\ln 6} = e^{\ln 6^3} = 6^3 = 216$

3) a-i) 1) Make one log on each side 3) Solve & check solutions
2) Exponentiate both sides.

Like 3i) $\ln 2x + \ln(x-4) = 3$

$\ln(2x^2 - 8x) = e^3$

$2x^2 - 8x = e^3$

$2x^2 - 8x - e^3 = 0$

$x = \dfrac{8 \pm \sqrt{64 + 4(2)(+e^3)}}{2(2)}$

$= \dfrac{8 \pm \sqrt{64 + 8e^3}}{4}$

Punch in Calculator

Like 3m

$e^{2x} - 5 = 4e^x$

$e^{2x} - 4e^x - 5 = 0$

$(e^x - 5)(e^x + 1) = 0$

$e^x - 5 = 0 \quad e^x + 1 = 0$

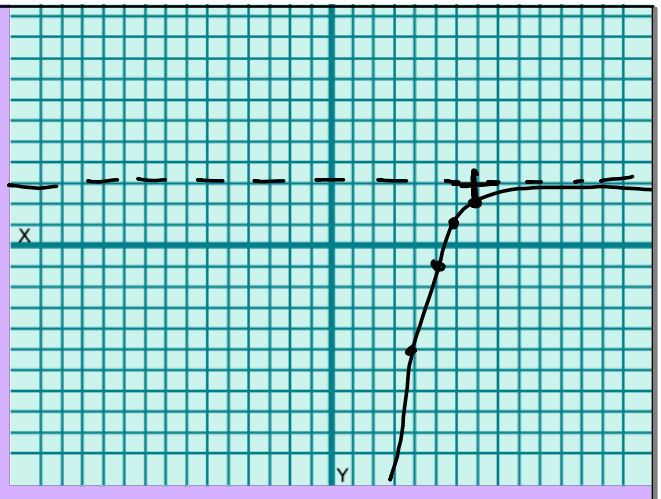
$\ln e^x = \ln 5 \quad \ln e^x = \ln -1$

$x = \ln 5 \quad x = \ln(-1)$

$y = -2^{x} + 3$ ups

$y = 2^{x}$

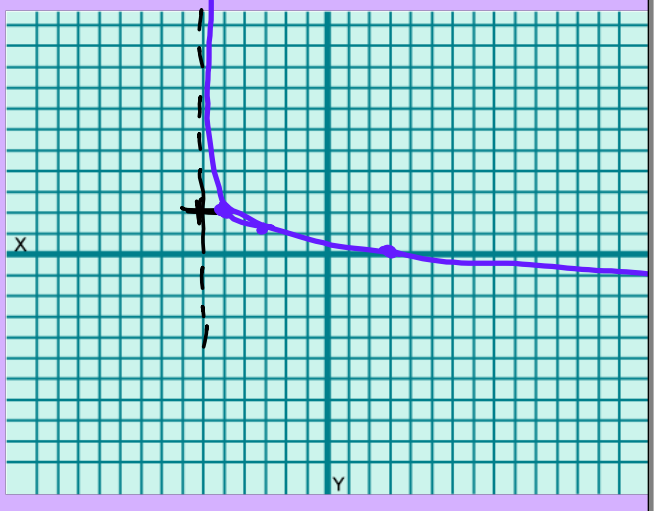
x	y
0	$2^0 = 1$
−1	−2
−2	−4
−3	−8

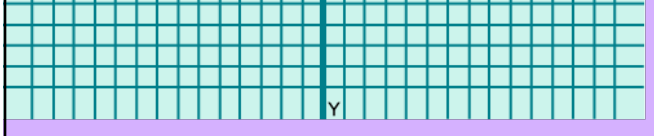


$y = -\log_3(x+6) + 2$

left up

x	y
1	0
3	−1
9	−2



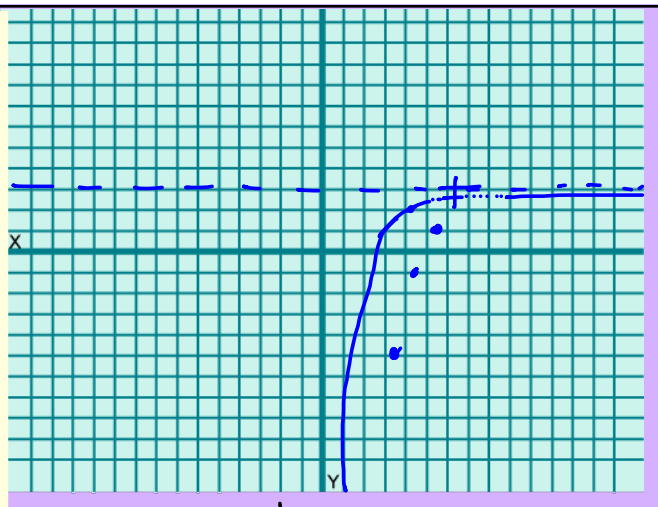


$y = -2^{-(x-5)} + 3$

$5 - x$

Right 5 Up 3

0	$2^0 = 1$
1	2
2	4
3	8



$y = -\ln(x+4) - 2$

Left 4 Down 2

$e^0 = 1$	0
$e^1 = 2.7$	-1
$e^2 = 7.4$	-2