28. $\log_3 \frac{1}{9}$ _ in clicker

$\log_3 \frac{1}{9} = x$

$3^x = \frac{1}{9}$

$3^x = \frac{1}{3^2}$ $x = -2$

$3^x = 3^{-2}$

$\log_{25} 125 = x$

$25^x = 125$

$(5^2)^x = 5^3$

$5^{2x} = 5^3$

$2x = 3$

$x = 3/2$

$$\log_4 \frac{1}{\sqrt{2}} = x$$

$$4^x = \frac{1}{\sqrt{2}}$$

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

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

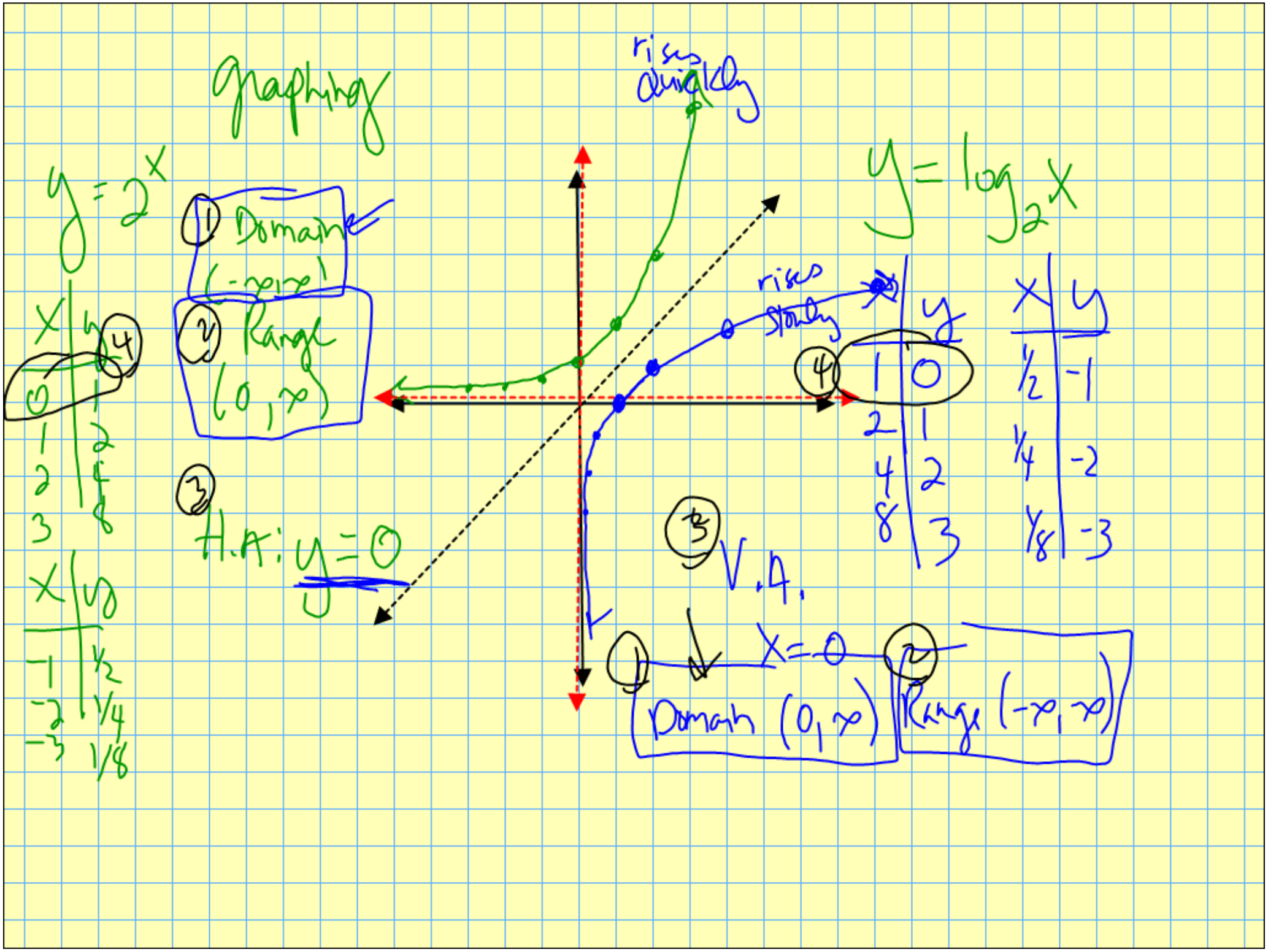
$$\frac{1}{2} \cdot 2x = -\frac{1}{2} \cdot \frac{1}{2}$$

$$x = -\frac{1}{4}$$

$\log_5(\log_2 32) = 5$

$\log_5 5 = 1$

$\log_2 32 = 5$


Graphing
$y = 2^x$
rises quickly
$y = \log_2 x$
rises slowly
1) Domain $(-\infty, \infty)$
2) Range $(0, \infty)$
3) H.A: $y = 0$
3) V.A. $x = 0$
1) Domain $(0, \infty)$
2) Range $(-\infty, \infty)$
4)
x | y
0 | 1
1 | 2
2 | 4
3 | 8
x | y
-1 | 1/2
-2 | 1/4
-3 | 1/8
4)
x | y
1 | 0
2 | 1
4 | 2
8 | 3
x | y
1/2 | -1
1/4 | -2
1/8 | -3

Domain of $y = \log_2(x-3)$

$x - 3 > 0$

$x > 3$

Domain of $y = \sqrt[2]{x-3}$

$x - 3 \geq 0$

$x \geq 3$

Domain

$y = \log_2(2-x)$

domain

$2 - x > 0$

$-x > -2$

$x < 2$

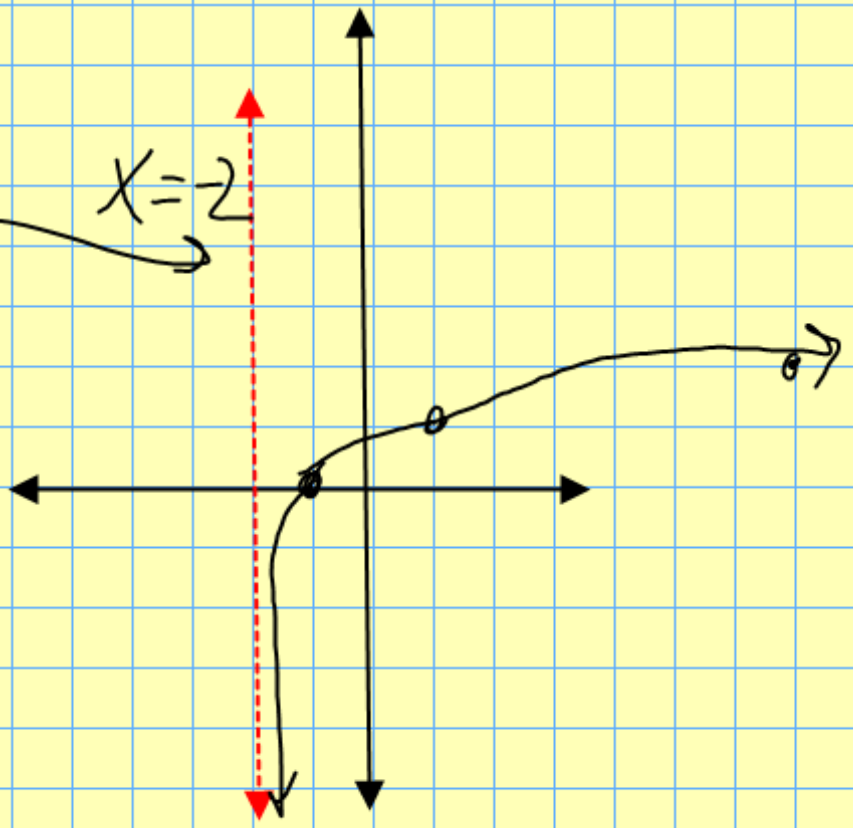
$(-\infty, 2)$

$y = \log_3 (x+2)$ graph

1) domain $x+2 > 0$

$x > -2$

x	y
-1	0
1	1
7	2



2) Change forms

$3^y = x+2$

$3^y - 2 = x$

Solve $\log_3(x-1) = 2$

$3^2 = x-1$

$9 = x-1$

$10 = x$

$\log_7(x+5) = 2$ Solve

$7^2 = x+5$

$49 = x+5$

$44 = x$