

Do w/ class

Graph the following, and find the domain, range, equation of vertical asymptote, x-intercept, and test points.

Range: $(-\infty, \infty)$

reflects graph over x-axis

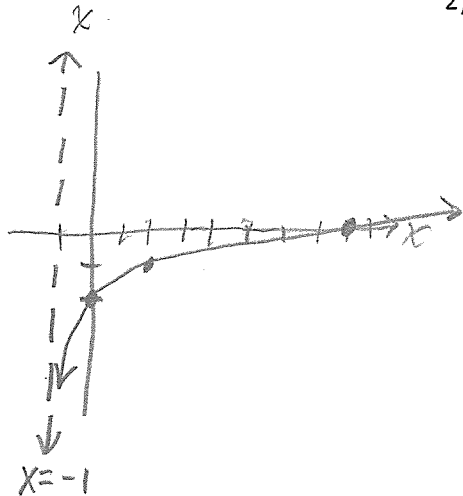
1) $f(x) = \log_3(x+1) - 2$

← think backwards

x	y
2	-1
0	-2
8	0

D: $x+1 > 0 \Rightarrow x > -1$

VA: $x+1=0 \Rightarrow x=-1$



2) $g(x) = -\log_5 x$

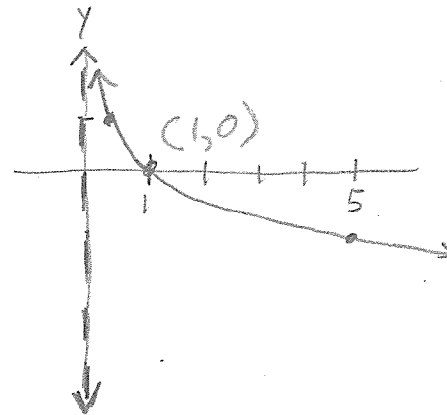
D: $x > 0$

R: $(-\infty, \infty)$

VA: $x=0$

x-int: $(1, 0)$

x	y
5	-1
1	0
25	-2
1/5	1



label VA!

Should be able to do quickly.

3) $h(x) = 1 - \log_5(x-2) \rightarrow -\log_5(x-2) + 1$

$\log_5(x-2) = 1 \rightarrow 5 = x-2$
 $7 = x$

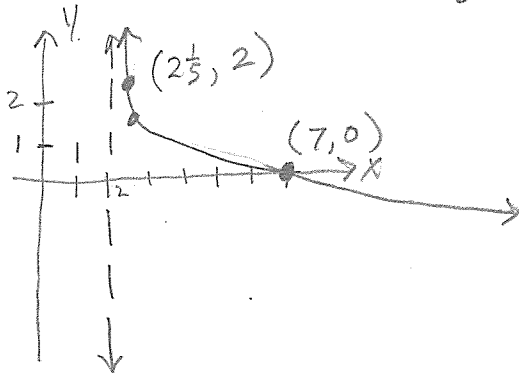
D: $x-2 > 0 \Rightarrow x > 2$

R: $(-\infty, \infty)$

VA: $x-2=0 \Rightarrow x=2$

x-int: $(7, 0)$

x	y
27	-1
2 1/2	1.4306
2 1/5	2



4) $f(x) = \ln x$

SKIP

(done on previous lesson) e & natural logs

5) $g(x) = \ln(2-x) \rightarrow \log_e(2-x)$

D: $2-x > 0 \rightarrow 2 > x$

R: $(-\infty, \infty)$

VA: $2-x=0 \rightarrow x=2$

x-int: $(1, 0)$

$0 = \ln(2-x)$

$10^0 = 2-x$

$1 = 2-x$

$x=1$

x	y
1	0
0	.69
-0.7	1
1.6	-1

$\log_e e = 1$

$2-x=e$

$x=2-e$

$x \approx -0.7$

$\log_e \frac{1}{e} = -1$

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

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

$x \approx 1.6$

