Name _____   Date _____

1. $y = \ln(x)$

Transformations: **None**

Domain: **$(0, \infty)$**   Range: **$\mathbb{R}$**

Asymptote: **$x = 0$**   Inc or Dec

X-Int: **$(1, 0)$**   Y-Int: **None**

End Behavior: $x \to$ **0** , $f(x) \to$ **$-\infty$**

          $x \to$ **∞** , $f(x) \to$ **∞**

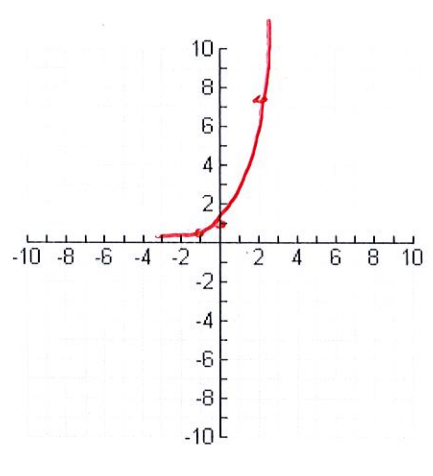**$(.5, -.693)$**

$(1, 0)$

$(3, 1.09)$
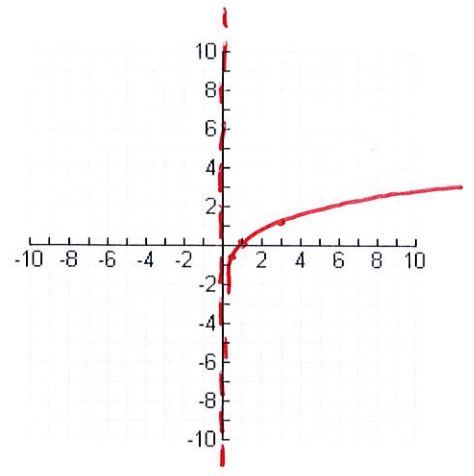
2. $y = e^x$

Transformations: **None**

Domain: _____   Range: _____

Asymptote: **$y = 0$**   Inc or Dec

X-Int: **None**   Y-Int: **$(0, 1)$**

End Behavior: $x \to$ **$-\infty$** , $f(x) \to$ **0**

          $x \to$ **∞** , $f(x) \to$ **∞**

$(-1, .368)$

$(0, 1)$

$(2, 7.39)$

3. $y = \ln(x + 2) - 1$

Transformations: **Left 2, Down 1**

Domain: **$(-2, \infty)$**   Range: **$\mathbb{R}$**

Asymptote: **$x = -2$**   Inc or Dec

X-Int: **$(0.718, 0)$**   Y-Int: **$(0, -0.307)$**

End Behavior: $x \to$ **-2** , $f(x) \to$ **$-\infty$**

          $x \to$ **∞** , $f(x) \to$ **∞**

$-1.5, -1.69$

$-1, -1$

$0, -.307$

$4, .79$
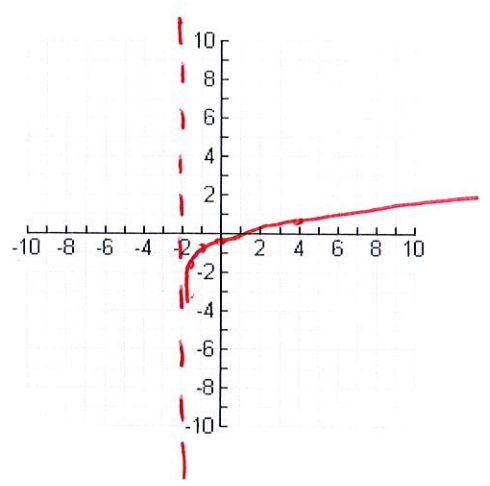
4. $y = e^{x-2} + 1$

Transformations: **Right 2, up 1**

Domain: **$\mathbb{R}$**   Range: **$(1, \infty)$**

Asymptote: **$y = 1$**   Inc or Dec

X-Int: **None**   Y-Int: **$(0, 1.13)$**

End Behavior: $x \to$ **$-\infty$** , $f(x) \to$ **1**

          $x \to$ **∞** , $f(x) \to$ **∞**

$0, 1.13$

$2, 2$

$4, 8.39$

HILLGROVE
HIGH SCHOOL
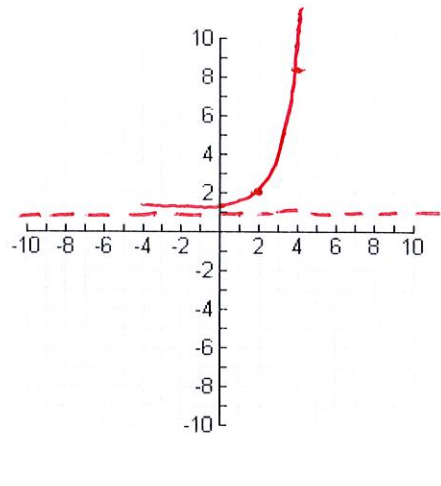
5. A) Does the table or graph have a larger y-intercept?
B) Determine which is a growth problem and which is a decay problem.

X	F(x)
-2	2.125
-1	2.25
0	2.5
1	3
2	4
3	6
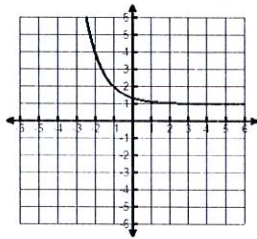
6. A) What is type of asymptote (vertical or horizontal) does this table have?
B) What is the equation of the asymptote?
C) Is #6 an Exponential Function or a Logarithmic Function?

X	F(x)
-0.5	-0.631
0	0
2	1
8	2

7. A) What is type of asymptote (vertical or horizontal) does this table have?
B) What is the equation of the asymptote?
C) Is #7 an Exponential Function or Logarithmic Function?

X	F(x)
-1	.111
-0.5	.193
0	.333
1	1
2	3
3	9
4	27

8. Which table is a log function and which table is an exponential function?

X	F(x)
-0.5	-0.5
0	0
1	.5
3	1
7	1.5
15	2

X	F(x)
-0.5	2
0	4
1	16
2	64
3	256

9. Write the equation of the exponential based upon the graph

x	y
-1	-1.5
0	-1
1	1
2	7
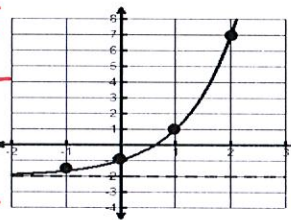
$y = 3^x - 2$

Also show parent function

10. Write the equation of the logarithm based upon the graph
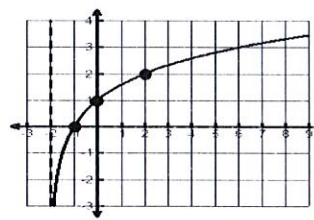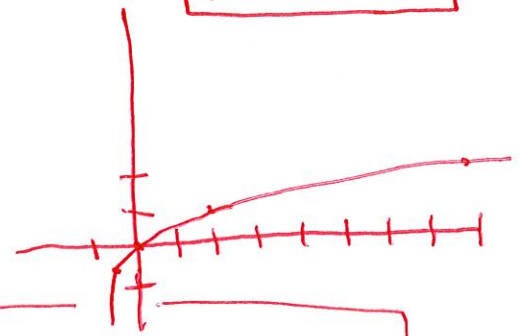

x	y
-1	0
0	1
2	2

$y = \log_2(x+2)$

⑤ Table y-int (0, 2.5)
Graph y-int (0, 1.5)
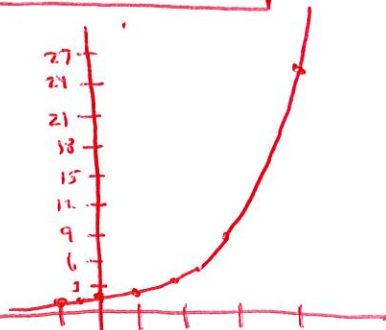
Ⓐ Table has larger y-int
Ⓑ Table is growth
Graph is decay

⑥ Plot

Ⓐ Vertical asy @ x = -1
Ⓑ x = -1   Ⓒ Logarithmic

⑦ Plot
Ⓐ Horizontal asy
Ⓑ y = 0
Ⓒ Exponential

⑧ Table A - Logarithmic
Table B - Exponential

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