Algebra 2 – 8.2 Day 3 Graphing Log Functions

Name: Key Hour: _____

Graph the following Log functions.

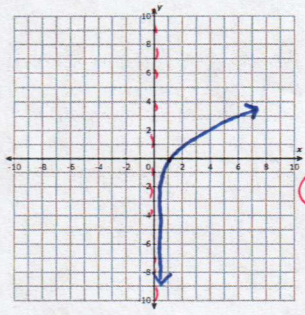
1. $y = \log_5 x$

Parent Function: $y = \log_5 x$

Logarithmic Growth / Decay

Transformations:

None



2. $y = -\log_{\frac{1}{3}}(x-1)+3$

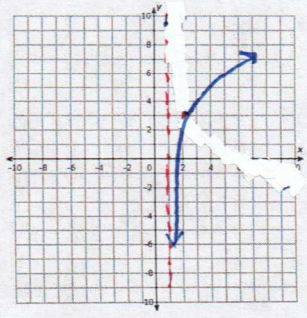
Parent Function: $y = \log_{\frac{1}{3}} x$

Logarithmic Growth / Decay

Transformations:

Reflect across $y=1$,

$\uparrow 3$



3. $y = \frac{1}{2}\log_2(x+1)$

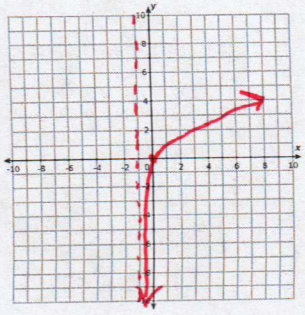
Parent Function: $y = \log_2 x$

Logarithmic Growth / Decay

Transformations:

$\leftarrow 1$,

Shrink by $\frac{1}{2}$



4. $y = -2\log_{\frac{1}{2}}(x+3)-5$

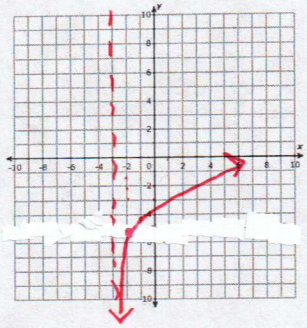
Parent Function: $y = \log_{\frac{1}{2}} x$

Logarithmic Growth / Decay

Transformations:

Reflect, Stretch by 2

$\leftarrow 3$, $\downarrow 5$



5. $y = \frac{1}{4}\ln(x+3)$

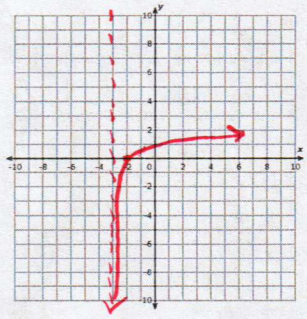
Parent : $y = \ln x$

Growth / Decay

Transformations:

Shrink by $\frac{1}{4}$

$\leftarrow 3$



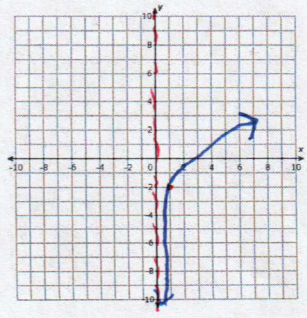
6. $y = \ln x - 2$

Parent : $y = \ln x$

Growth / Decay

Transformations:

$\downarrow 2$



Note:

These all looked the same (ish) by coincidence.

Because the Decay graphs all Reflected.