

$$y = a \ln(x - h) + k$$

Domain:

Range:

Asymptote:

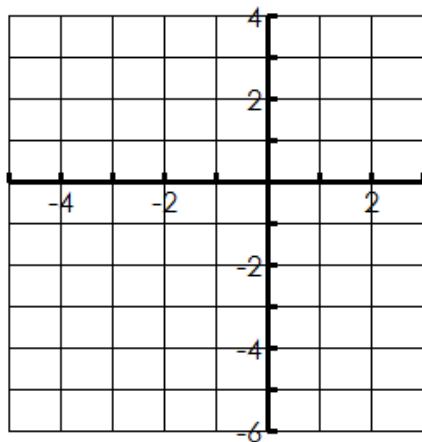
X-Int:

Y-Int:

Increasing or Decreasing – read graph left to right

End Behavior $x \rightarrow \text{_____}, f(x) \rightarrow \text{_____}$
 $x \rightarrow \text{_____}, f(x) \rightarrow \text{_____}$

1. $y = \ln x$



Transformations: _____

State 3 points on Graph _____

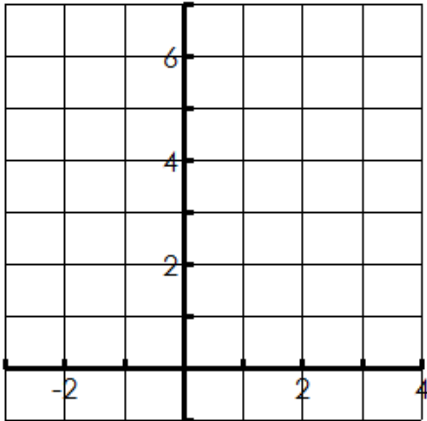
Domain _____ Range _____

Asymptote _____ Increasing or Decreasing

X-intercept _____ Y-intercept _____

End Behavior $x \rightarrow \text{_____}, f(x) \rightarrow \text{_____}$
 $x \rightarrow \text{_____}, f(x) \rightarrow \text{_____}$

2. $y = \ln x + 3$



Transformations: _____

State 3 points on Graph _____

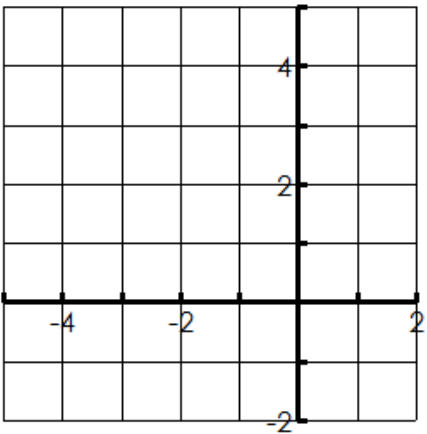
Domain _____ Range _____

Asymptote _____ Increasing or Decreasing

X-intercept _____ Y-intercept _____

End Behavior $x \rightarrow \text{_____}, f(x) \rightarrow \text{_____}$
 $x \rightarrow \text{_____}, f(x) \rightarrow \text{_____}$

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



Transformations: _____

State 3 points on Graph _____

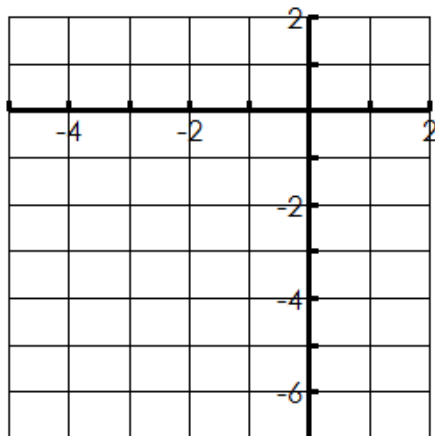
Domain _____ Range _____

Asymptote _____ Increasing or Decreasing

X-intercept _____ Y-intercept _____

End Behavior $x \rightarrow \text{_____}, f(x) \rightarrow \text{_____}$
 $x \rightarrow \text{_____}, f(x) \rightarrow \text{_____}$

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



Transformations: _____

State 3 points on Graph _____

Domain _____ Range _____

Asymptote _____ Increasing or Decreasing

X-intercept _____ Y-intercept _____

End Behavior $x \rightarrow \text{_____}, f(x) \rightarrow \text{_____}$
 $x \rightarrow \text{_____}, f(x) \rightarrow \text{_____}$