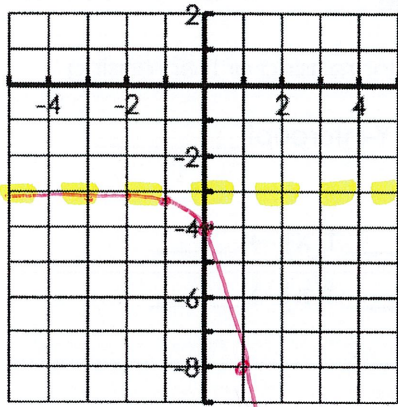


Name: Guide

Date: _____

Graphing and Characteristics of Exponential Equations

1. $y = -5^x - 3$



Transformations: Reflect over x-axis, Down 3

State 3 points on Graph (1, -8) (0, -4) (-1, -16/5)

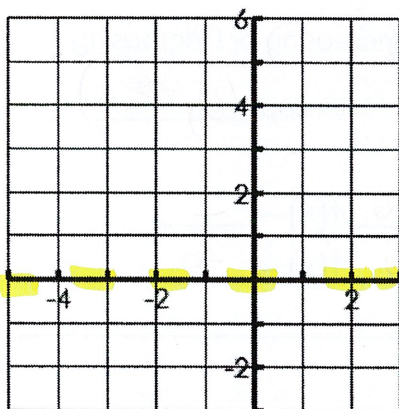
Domain $(-\infty, \infty)$ Range $(-\infty, -3)$

Asymptote $y = -3$ Increasing or Decreasing

X-intercept None Y-intercept (0, -4)

End Behavior $x \rightarrow -\infty, f(x) \rightarrow -3$
 $x \rightarrow \infty, f(x) \rightarrow -\infty$

2. $y = \left(\frac{1}{3}\right)^{x+3}$



Transformations: _____

State 3 points on Graph _____

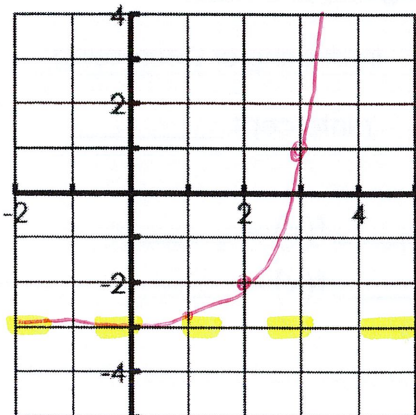
Domain _____ Range _____

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. $y = 4^{x-2} - 3$



Transformations: Right 2, Down 3

State 3 points on Graph (3, -1) (2, -2) (1, -17/4)

Domain $(-\infty, \infty)$ Range $(-3, \infty)$

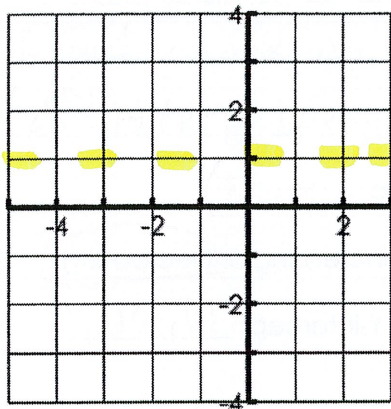
Asymptote $y = -3$ Increasing or Decreasing

X-intercept (2.9, 0) Y-intercept (0, -47/16)

↑ estimate

End Behavior $x \rightarrow -\infty, f(x) \rightarrow -3$
 $x \rightarrow \infty, f(x) \rightarrow \infty$

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



Transformations: _____

State 3 points on Graph _____

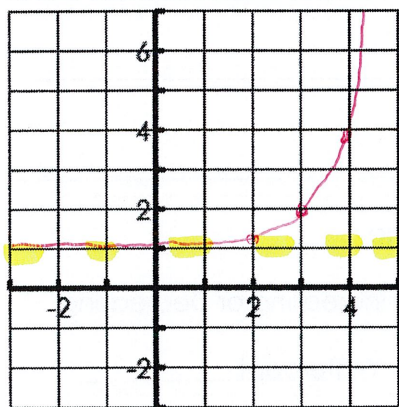
Domain _____ Range _____

Asymptote _____ Increasing or Decreasing

X-intercept _____ Y-intercept _____

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

5. $y = 3^{x-3} + 1$



Transformations: Right 3, Up 1

State 3 points on Graph (4, 4) (3, 2) (2, 4/3)

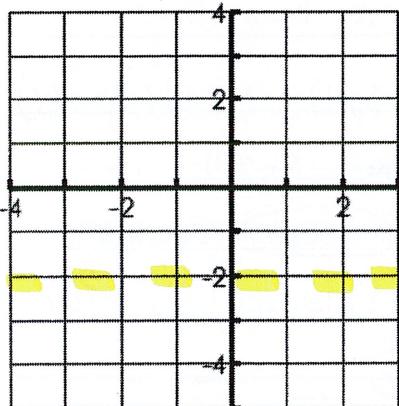
Domain $(-\infty, \infty)$ Range $(1, \infty)$

Asymptote $y = 1$ Increasing or Decreasing

X-intercept None Y-intercept $(0, \frac{28}{27})$

End Behavior $x \rightarrow -\infty, f(x) \rightarrow \underline{1}$
 $x \rightarrow \infty, f(x) \rightarrow \infty$

6. $y = \left(\frac{1}{2}\right)^{x+1} - 2$



Transformations: _____

State 3 points on Graph _____

Domain _____ Range _____

Asymptote _____ Increasing or Decreasing

X-intercept _____ Y-intercept _____

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