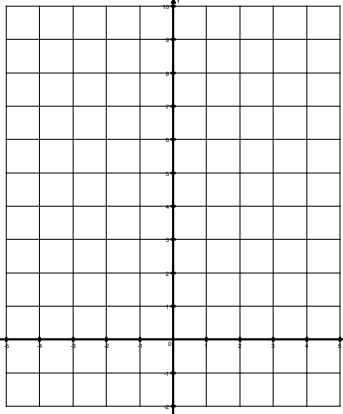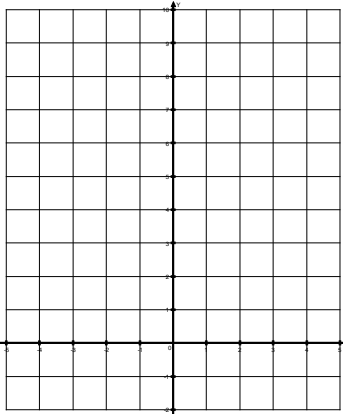**Day 3 – Characteristics Practice**   **Name:** _____
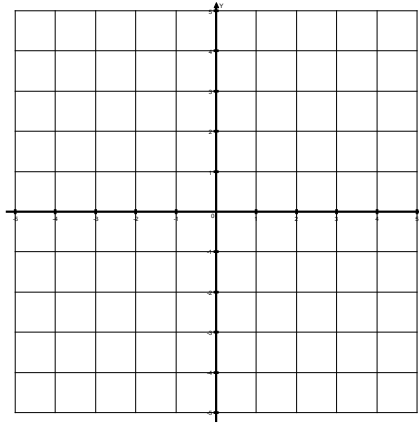
For each of the following problems, create a graph using the given table of values. Be sure to place the horizontal asymptote at the appropriate location. Once you are finished with your graph, complete the characteristics of the function accordingly.

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1. $f(x) = 3^x$

x	y
-2	
-1	
0	
1	
2	

Domain: _____   Range: _____

X-intercept: _____   y-intercept: _____

Interval of Increase: _____   Interval of Decrease: _____

Maximum(s): _____   Minimum(s): _____

Asymptote: _____

End- Behavior: as x → −∞, f(x) → _____
                           as x → ∞, f(x) → _____

Positive: _____   Negative: _____

Find the average rate of change from x=0 to x=2: _____

---

2. $g(x) = \left(\dfrac{1}{3}\right)^x$

x	y
-2	
-1	
0	
1	
2	

Domain: _____   Range: _____

X-intercept: _____   y-intercept: _____

Interval of Increase: _____   Interval of Decrease: _____

Maximum(s): _____   Minimum(s): _____

Asymptote: _____

End- Behavior: as x → −∞, f(x) → _____
                           as x → ∞, f(x) → _____

Positive: _____   Negative: _____

Find the average rate of change from x=-2 to x=0: _____

3. $h(x) = 2^x - 4$

x	y
-2	
-1	
0	
1	
2	

Domain: _____ Range: _____

X-intercept: _____ y-intercept: _____

Interval of Increase: _____ Interval of Decrease: _____

Maximum(s): _____ Minimum(s): _____

Asymptote: _____

End- Behavior:
as x $\rightarrow -\infty$, f(x) $\rightarrow$ _____
as x $\rightarrow \infty$, f(x) $\rightarrow$ _____

Positive: _____ Negative: _____

Find the average rate of change from x=0 to x=2: _____

4. $p(x) = 2^{x+4}$

x	y
-5	
-4	
-3	
-2	
-1	
0	
1	
2	

Domain: _____ Range: _____

X-intercept: _____ y-intercept: _____

Interval of Increase: _____ Interval of Decrease: _____
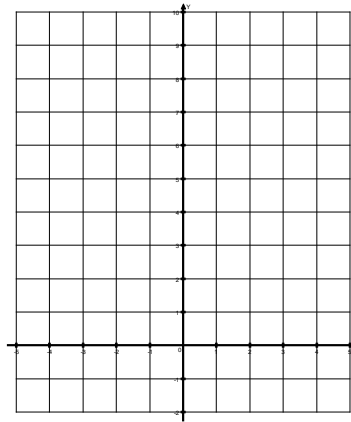
Maximum(s): _____ Minimum(s): _____

Asymptote: _____

End- Behavior:
as x $\rightarrow -\infty$, f(x) $\rightarrow$ _____
as x $\rightarrow \infty$, f(x) $\rightarrow$ _____

Positive: _____ Negative: _____

Find the average rate of change from x=-4 to x=-1: _____