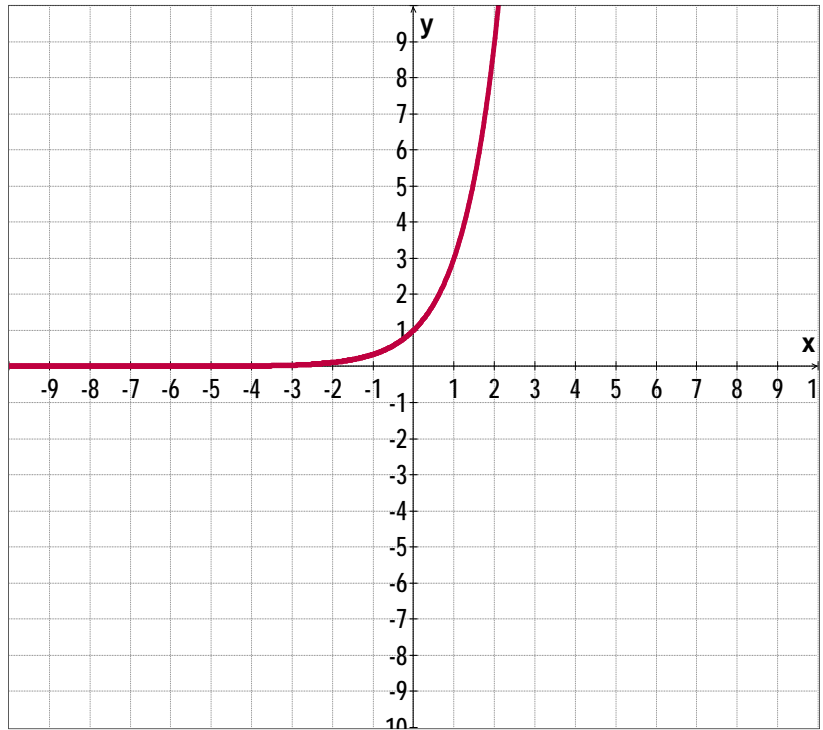# Taking a Closer Look!

Name_____**ANSWERS**_____

Directions: Give answers about the graph in interval notation when possible.

Graph: $y = 3^x$

1. Is it a function? **YES**

2. Domain: **(-∞,∞)**

3. Range: **(0,∞)**

4. *x*-intercept(s): **none**

5. *y*-intercept(s): **y = 1**

6. Symmetry: **None**

7. Where is the graph increasing? : **(-∞,∞)**

8. Where is the graph decreasing? **none**

9. Where is *y* < 0? **No where**

10. Where is *y* > 0? : **(-∞,∞)**

11. Where is *y* = 0? **Never**

12. Find *y* when *x* = -3. **1/27**

13. For what *x*-value(s) is *y* = 243? **x = 5**

14. Absolute maximum value of graph:
    none approaches ∞

15. Absolute minimum value of graph:
    none approaches zero

16. Asymptote(s): **y = 0**
    (state equation(s))

17. Is the inverse of this graph a function?
    YES

18. What "type" of graph is the inverse?
    logarithmic

19. Assuming *y* = *f*(*x*):
    as $x \rightarrow +\infty$, $f(x) \rightarrow$ __**+∞**____

    as $x \rightarrow -\infty$, $f(x) \rightarrow$ __**0**____

20. Name given to this graph:
    Exponential