

6-4b Transforming Exponential Functions

Describe the transformations that map the function $y = 2^x$ onto each of the following functions.

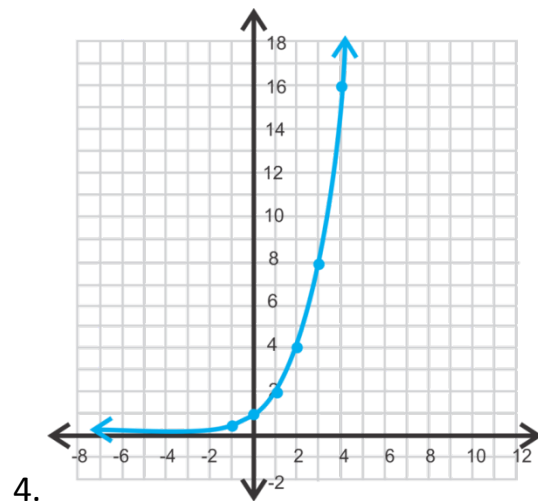
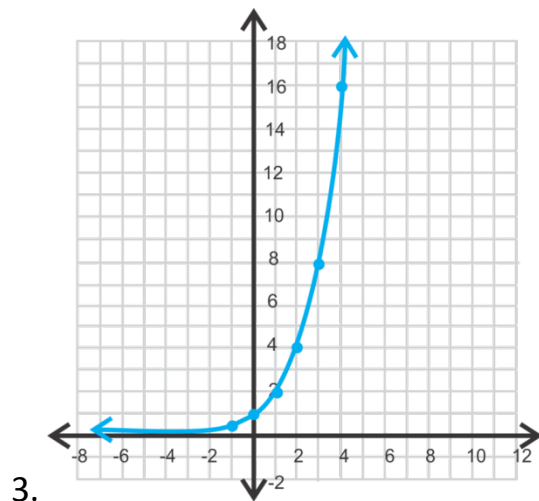
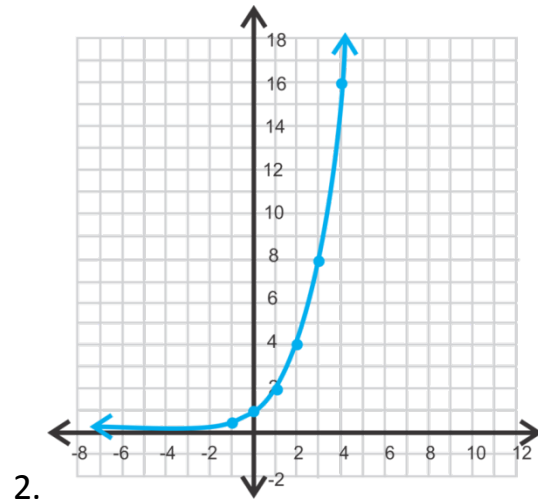
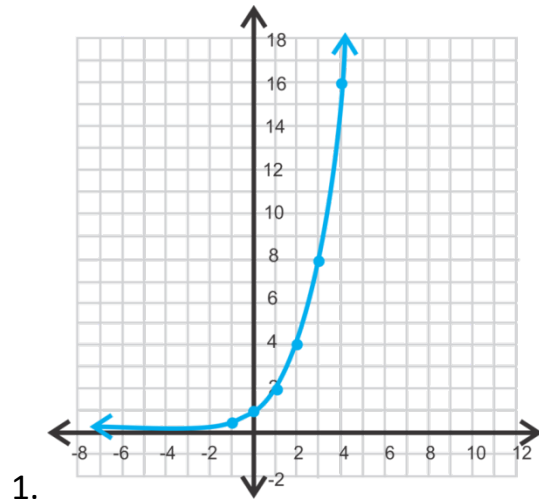
1. $y = 2^x - 2$ _____

2. $y = 2^{x+3}$ _____

3. $y = 3 * 2^x$ _____

4. $y = 3 * 2^{x-1} + 1$ _____

Sketch the graph for question 1-4 (a table of values will help)



Name: _____

Write the equation for the function that results from each transformation applied to the base function $y = 5^x$.

5. translate down 3 units _____

6. shift right 2 units _____

7. translate left $\frac{1}{2}$ unit _____

8. shift up 1 unit and left 2.5 units _____

9. stretch vertically by a factor of 7 _____

Write the coordinate point of the y-intercept.

10. $f(x) = 5 * 4^x + 2$ _____

11. $y = 2 * \frac{1^x}{2} - 12$ _____

12. $y = 6^x + 7$ _____

Write the equation of the asymptote.

13. $f(x) = 5 * 4^x + 2$ _____

14. $y = 2 * \frac{1^x}{2} - 12$ _____

15. $y = 6^x + 7$ _____