

Inverse Functions and Graphing Exponential Functions Homework
Module 2, Unit 5, Lesson 9

Find the inverse of each function.

1. $f(x) = \frac{2x-5}{7}$

2. $f(x) = \sqrt{x+4}$

3. $f(x) = 10^{5x+8}$

4. $f(x) = e^{x-5}$

Write the equation of the asymptote and find the domain of each function.

5. $f(x) = -2e^{x+1} + 5$

6. $f(x) = \frac{1}{2}(3)^{x+4} - 2$

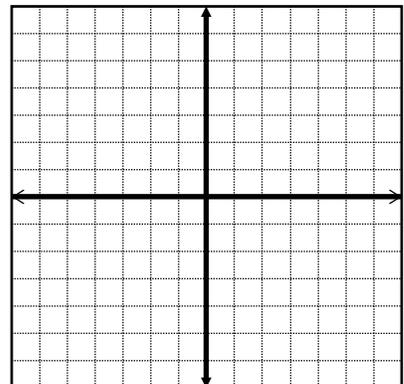
Graph. Write the equation of the asymptote and give the domain and range in interval notation.

7. $f(x) = e^{x-1} - 1$

Asymptote: _____

Domain: _____

Range: _____

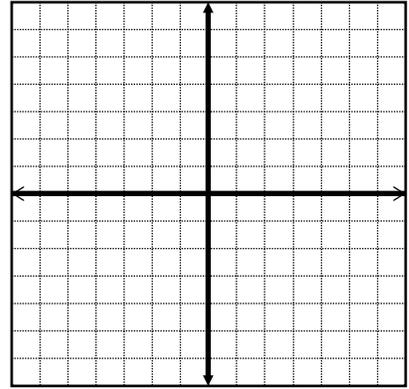


8. $h(x) = \left(\frac{1}{2}\right)^{x-1} + 2$

Asymptote: _____

Domain: _____

Range: _____

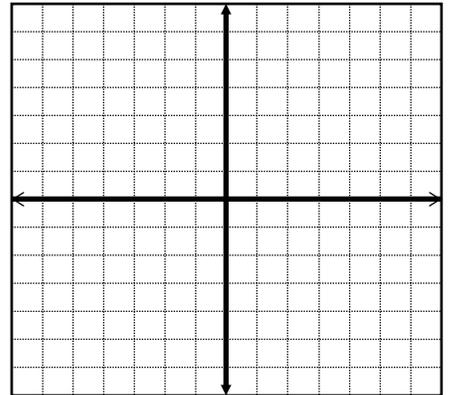


9. $g(x) = 2^{x+2} - 1$

Asymptote: _____

Domain: _____

Range: _____

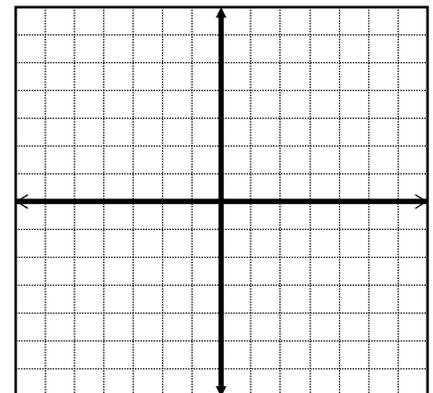


10. $f(x) = e^{-x} + 1$

Asymptote: _____

Domain: _____

Range: _____

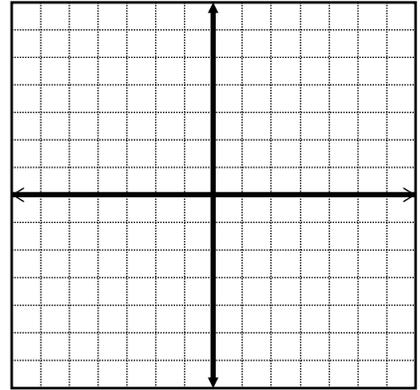


11. $h(x) = -3^{x-2}$

Asymptote: _____

Domain: _____

Range: _____

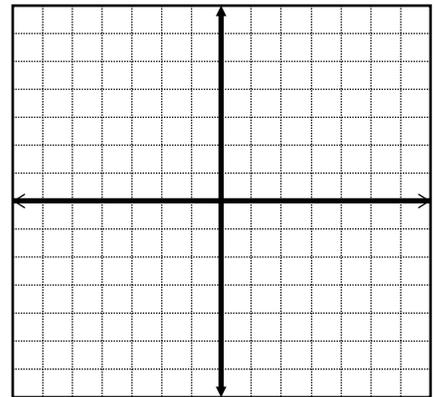


12. $g(x) = \frac{1}{3}(3)^x + 2$

Asymptote: _____

Domain: _____

Range: _____



Answers

1. $f^{-1}(x) = \frac{7x+5}{2}$

2. $f^{-1}(x) = x^2 - 4$

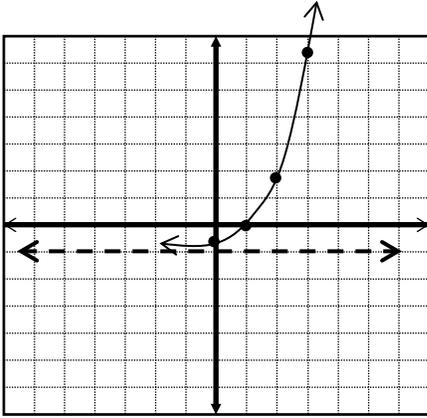
3. $f^{-1}(x) = \frac{1}{5}(\log x - 8)$ or $f^{-1}(x) = \frac{\log x - 8}{5}$

4. $f^{-1}(x) = \ln x + 5$

5. $y = 5, (-\infty, \infty)$

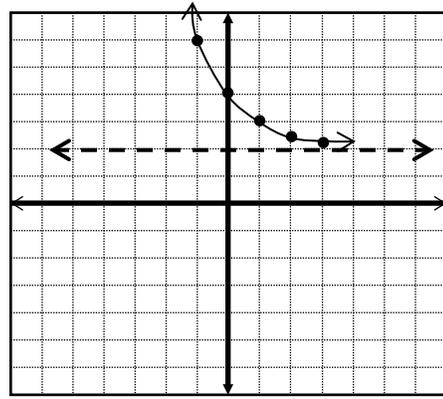
6. $y = -2, (-\infty, \infty)$

7.



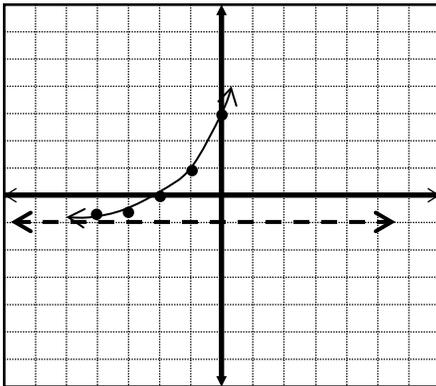
A: $y = -1$, D: $(-\infty, \infty)$, R: $(-1, \infty)$

8.



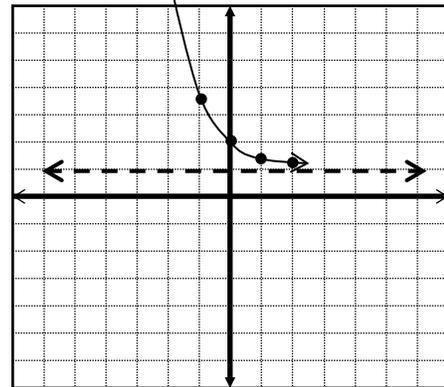
A: $y = 2$, D: $(-\infty, \infty)$, R: $(2, \infty)$

9.



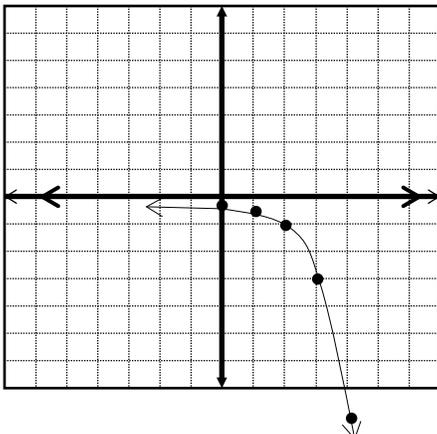
A: $y = -1$, D: $(-\infty, \infty)$, R: $(-1, \infty)$

10.



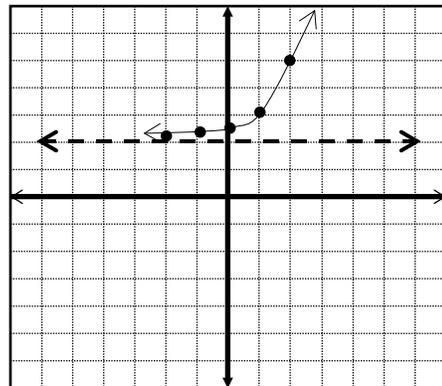
A: $y = 1$, D: $(-\infty, \infty)$, R: $(1, \infty)$

11.



A: $y = 0$, D: $(-\infty, \infty)$, R: $(-\infty, 0)$

12.



A: $y = 2$, D: $(-\infty, \infty)$, R: $(2, \infty)$