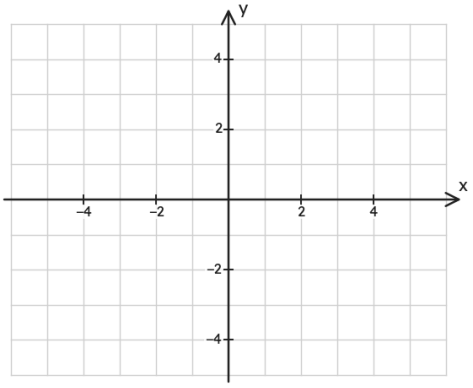
Name: _____ Date: _____

Fresh Math

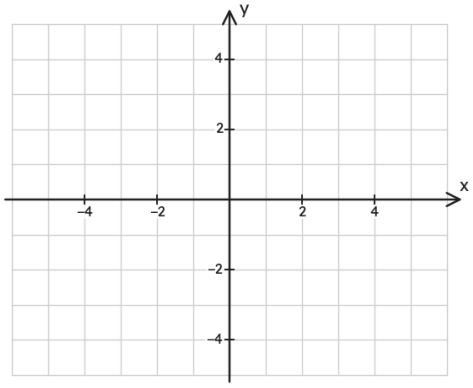
Graphs Logarithmic Functions - Medium

Graph each function and give its asymptote, domain, and range, or write the function shown by the graph.

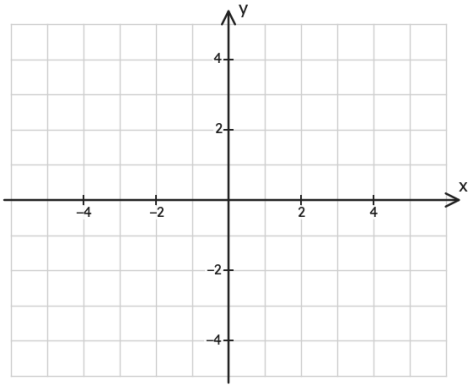
1. Graph $f(x) = \log_3(x - 1) - 3$.



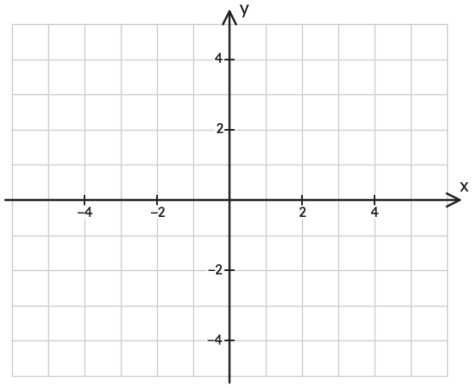
2. Graph $f(x) = \log_2 x - 1$.



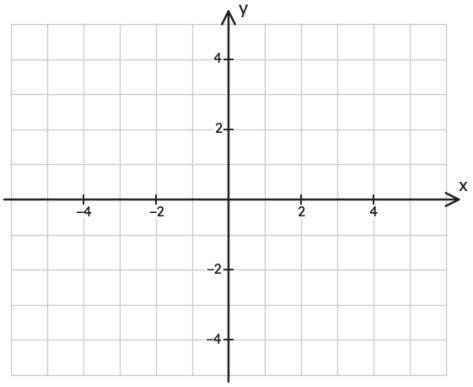
3. Graph $f(x) = \log_2(x + 4) + 1$.



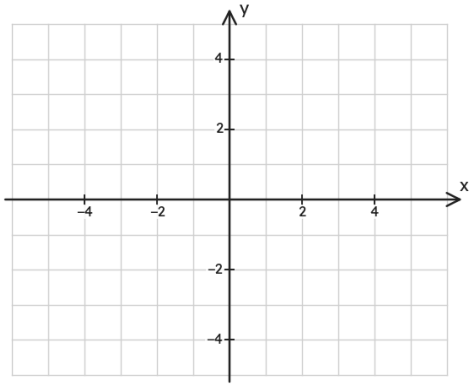
4. Graph $f(x) = \log_3(x - 1) - 2$.



5. Graph $f(x) = \log_3(x + 4) + 2$.



6. Graph $f(x) = \log_2(x - 2) - 2$.

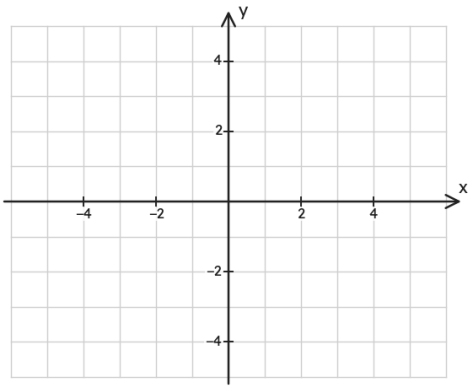


Name: _____ Date: _____

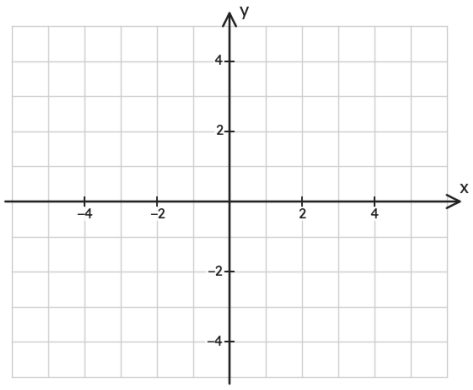
Graphs Logarithmic Functions - Medium

Graph each function and give its asymptote, domain, and range, or write the function shown by the graph.

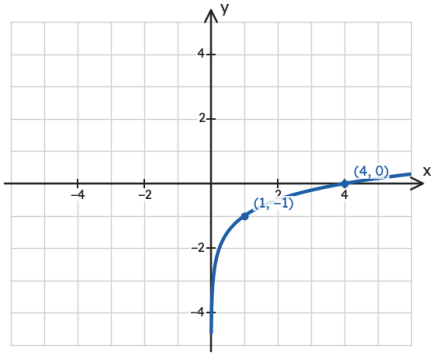
7. Graph $f(x) = \log_3(x + 1) - 2$.



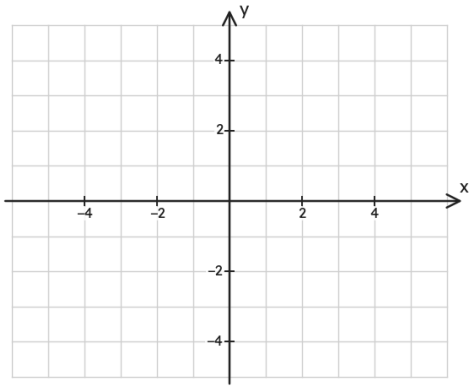
8. Graph $f(x) = \log_3(x + 2) - 1$.



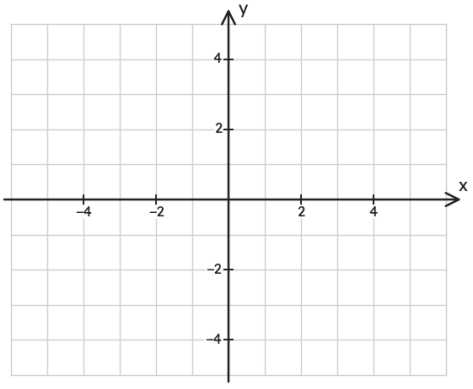
9. Write an equation y = log_b x + k for the graph.



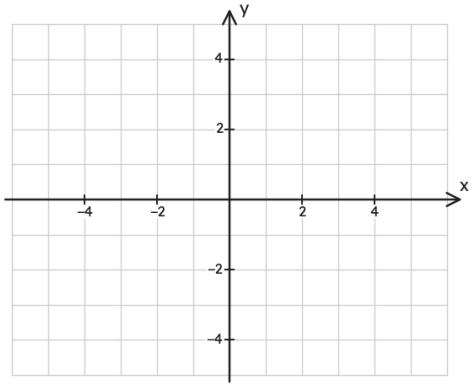
10. Graph $f(x) = \log_3(x - 2) - 1$.



11. Graph $f(x) = \log_2(x + 3) + 1$.

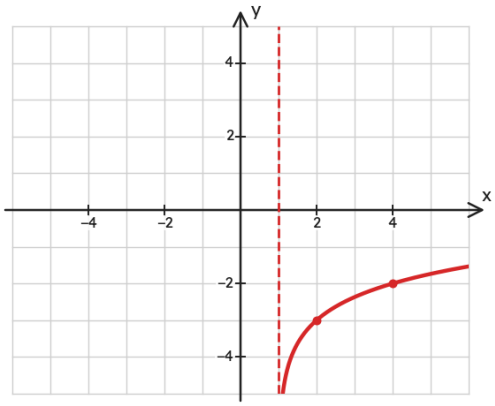


12. Graph $f(x) = \log_2(x + 3) - 1$.



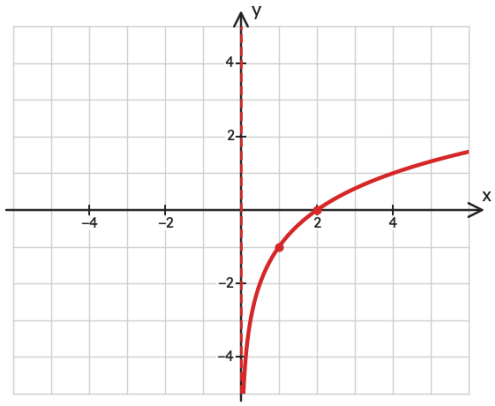
Graphs Logarithmic Functions - Medium - Answer Key

1. Graph $f(x) = \log_3(x - 1) - 3$.



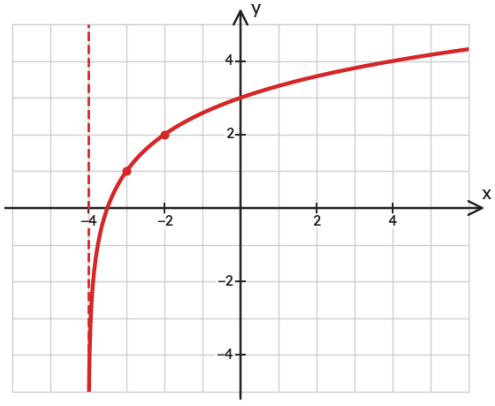
asymptote x = 1; domain x > 1; range: all reals

2. Graph $f(x) = \log_2 x - 1$.



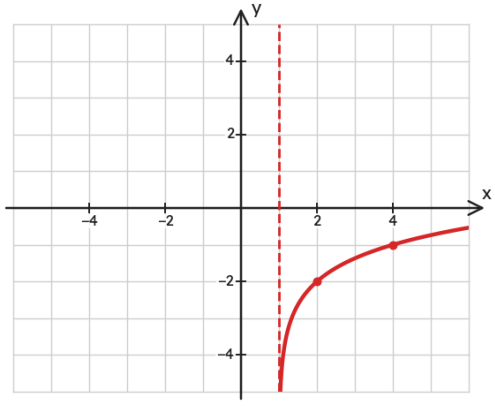
asymptote x = 0; domain x > 0; range: all reals

3. Graph $f(x) = \log_2(x + 4) + 1$.



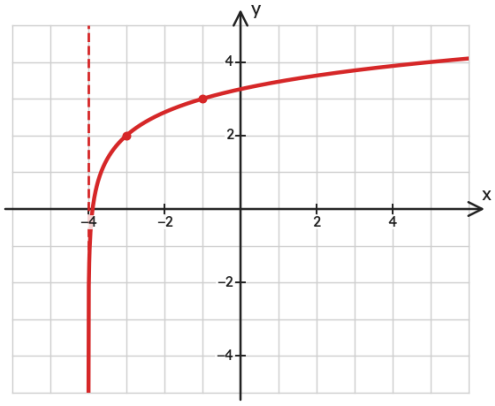
asymptote x = −4; domain x > −4; range: all reals

4. Graph $f(x) = \log_3(x - 1) - 2$.



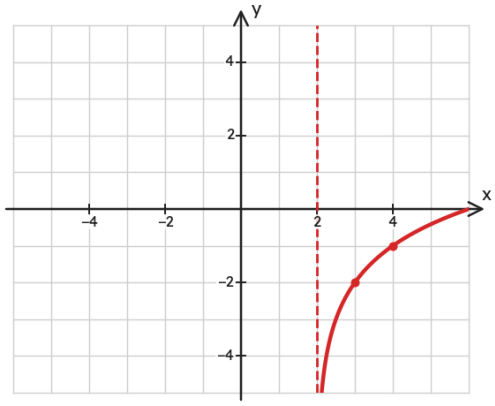
asymptote x = 1; domain x > 1; range: all reals

5. Graph $f(x) = \log_3(x + 4) + 2$.



asymptote x = −4; domain x > −4; range: all reals

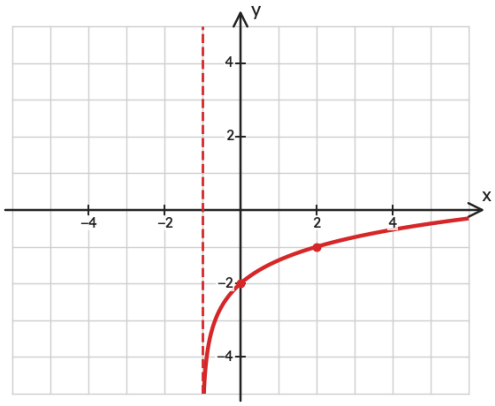
6. Graph $f(x) = \log_2(x - 2) - 2$.



asymptote x = 2; domain x > 2; range: all reals

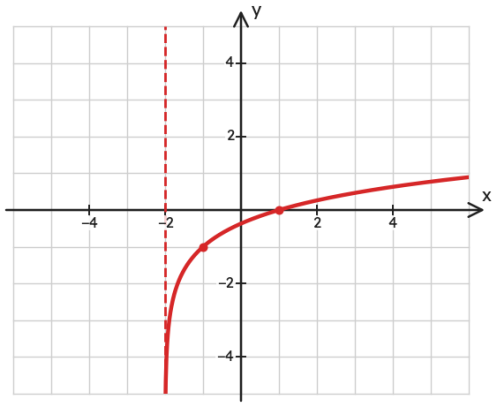
Graphs Logarithmic Functions - Medium - Answer Key

7. Graph $f(x) = \log_3(x + 1) - 2$.



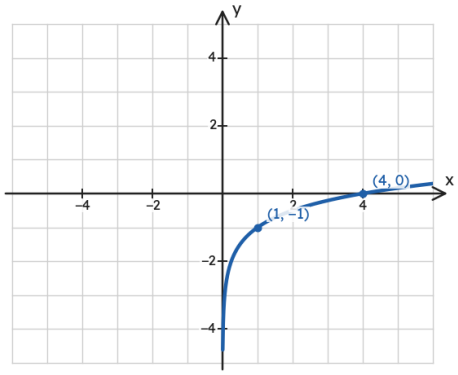
asymptote x = −1; domain x > −1; range: all reals

8. Graph $f(x) = \log_3(x + 2) - 1$.



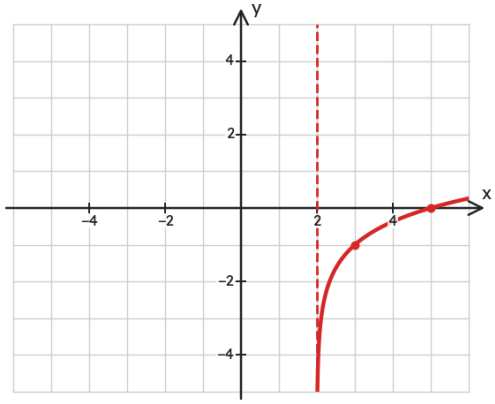
asymptote x = −2; domain x > −2; range: all reals

9. Write an equation y = log_b x + k for the graph.



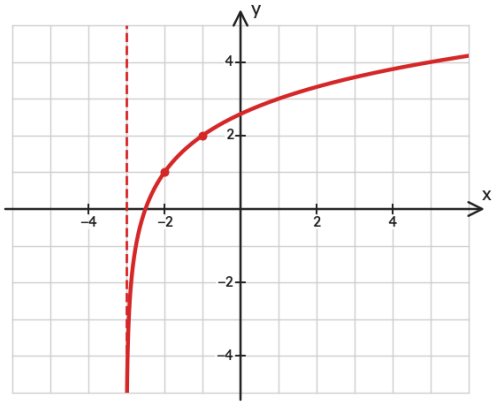
$y = \log_4 x - 1$

10. Graph $f(x) = \log_3(x - 2) - 1$.



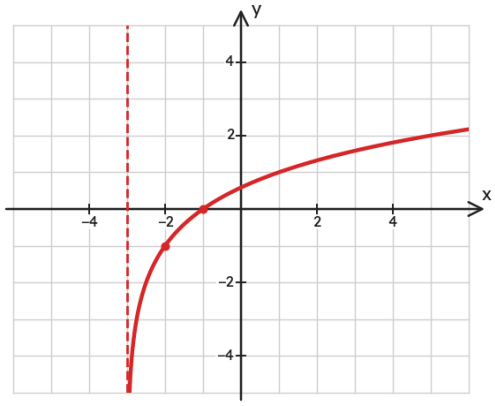
asymptote x = 2; domain x > 2; range: all reals

11. Graph $f(x) = \log_2(x + 3) + 1$.



asymptote x = −3; domain x > −3; range: all reals

12. Graph $f(x) = \log_2(x + 3) - 1$.



asymptote x = −3; domain x > −3; range: all reals