

8.3 Graphing Logarithmic Functions

Period _____

State the **VERTICAL ASYMPTOTE** of the following functions.

1) $y = \log(x - 1) + 4$

2) $y = \log(x - 2)$

3) $y = \log(x + 4) - 3$

4) $y = \log(x + 3) + 5$

5) $y = \log(x + 3) - 5$

6) $y = \log(x - 1) + 2$

State the **vertical asymptote** of the following functions. Then state the **DOMAIN** and the **RANGE** of each function.

7) $y = \log(x - 1) + 5$

8) $y = \log(x - 1) + 4$

9) $y = \log(x + 6) - 5$

10) $y = \log(x + 2) + 3$

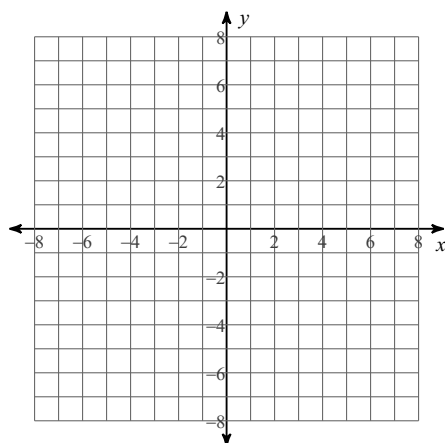
11) $y = \log(x + 4) - 4$

12) $y = \log(x - 1) + 2$

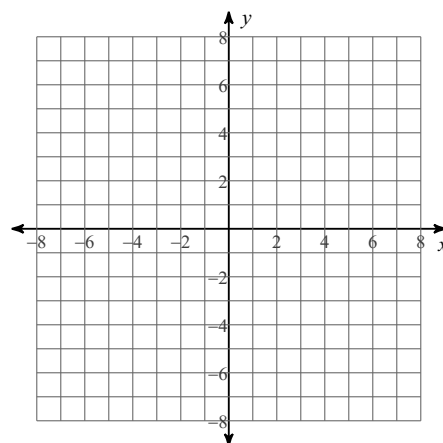
a) Plot three points of the following functions on the graph.

b) State **AND DRAW** the vertical asymptote.c) State the **DOMAIN** and the **RANGE** of each function.

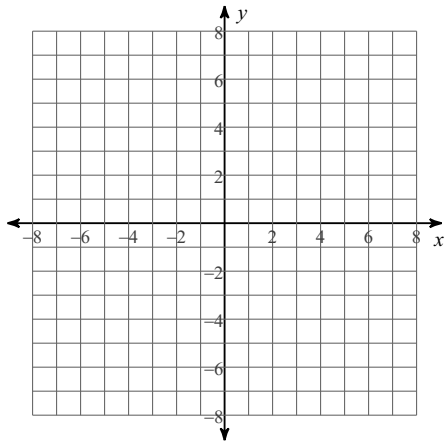
13) $y = \log(x - 1) - 2$



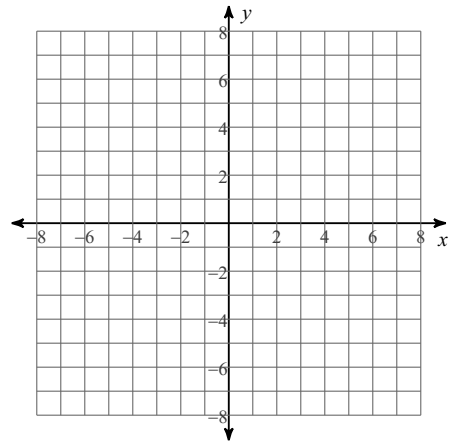
14) $y = \log(x + 2) - 3$



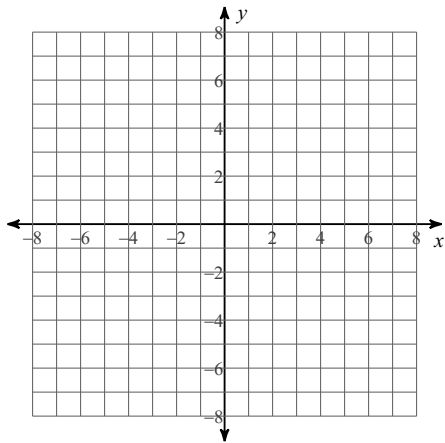
15) $y = \log(x + 1)$



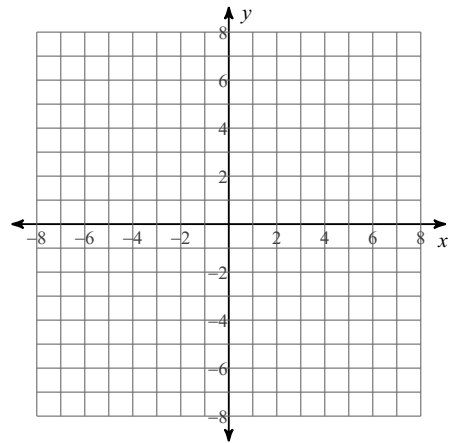
16) $y = \log(x - 1) + 4$



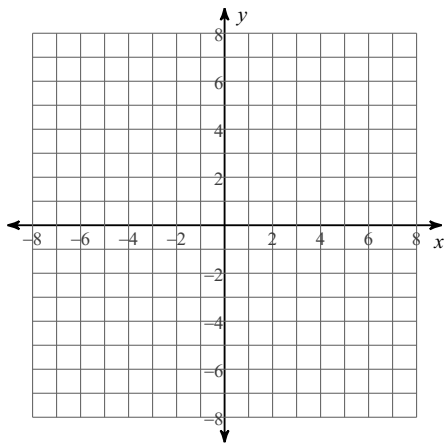
17) $y = \log(x - 3) - 3$



18) $y = \log(x - 3) + 3$



19) $y = \log(x - 1) - 4$



20) $y = \log(x - 2) + 5$

