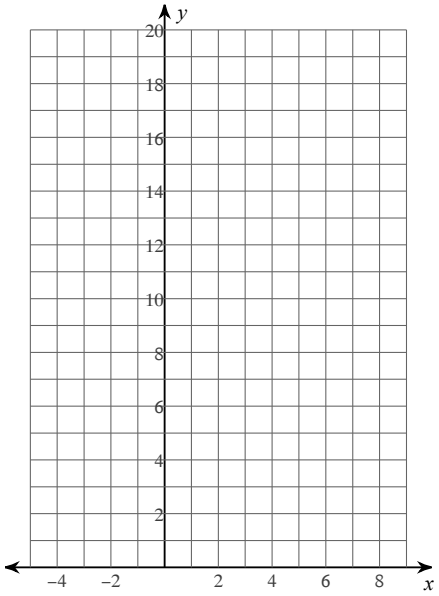
Algebra 2 Name_____

Graphing Log Functions day 1

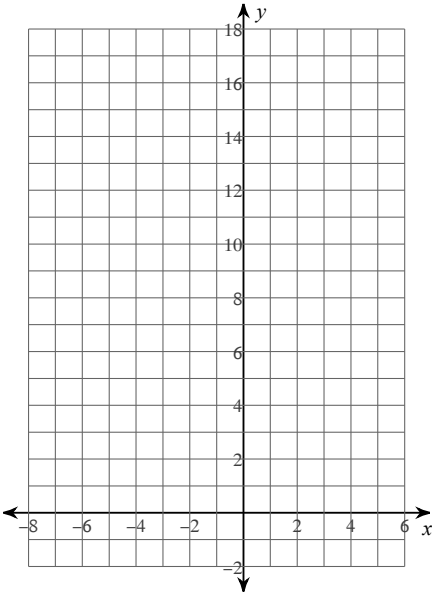
Date_____ Hour____

Identify the domain, range, and equation of the asymptote of each. Then graph.

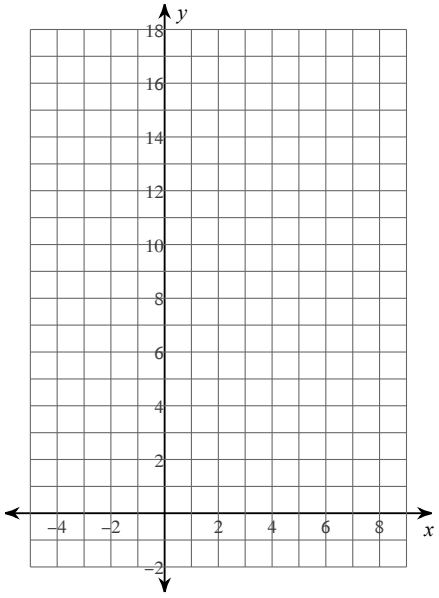
1) $y = \left(\frac{1}{2}\right)^{x-2}$



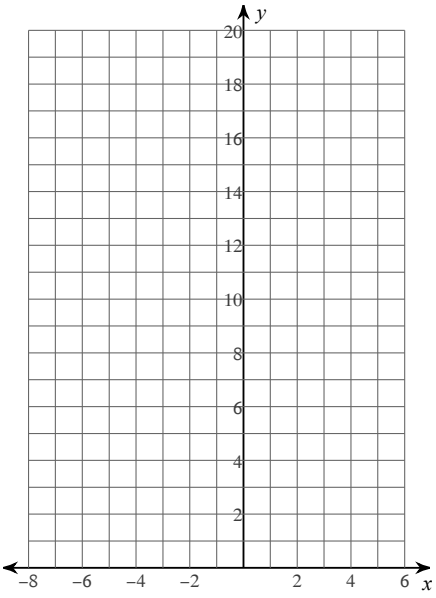
2) $y = 2^{x+1} - 2$



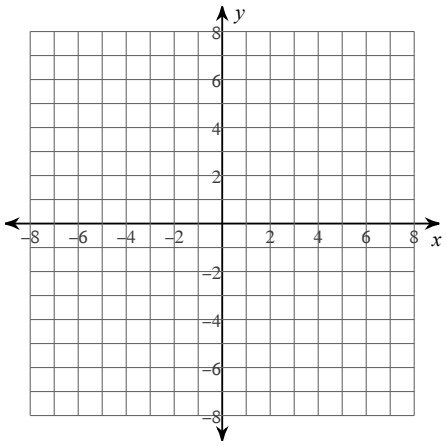
3) $f(x) = 2 \cdot 3^{x-2} - 2$



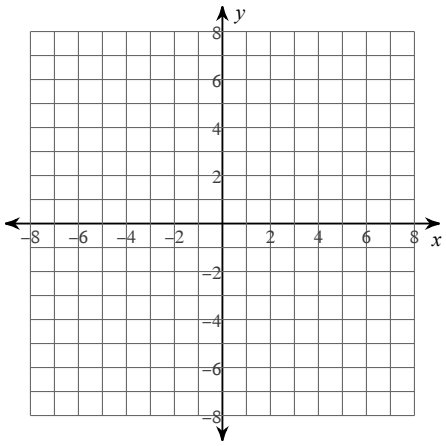
4) $f(x) = 2 \cdot \left(\frac{1}{2}\right)^{x+1} + 2$



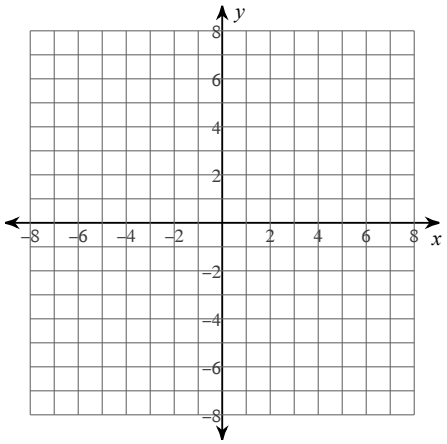
5) $y = \log_4 (x - 1) - 4$



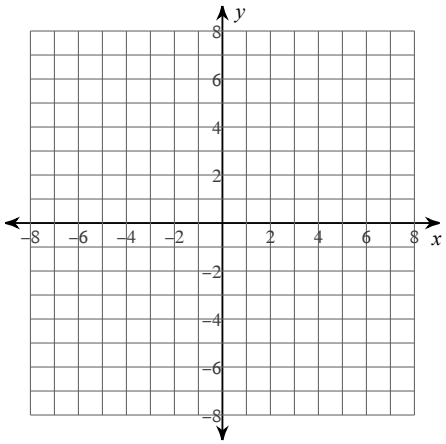
6) $y = \log_2 (x - 2) - 5$



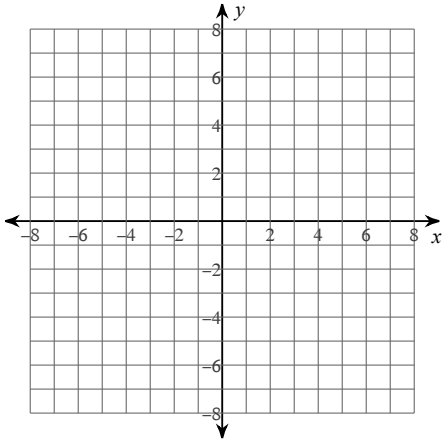
7) $y = \log_{\frac{1}{3}} (x + 5) - 5$



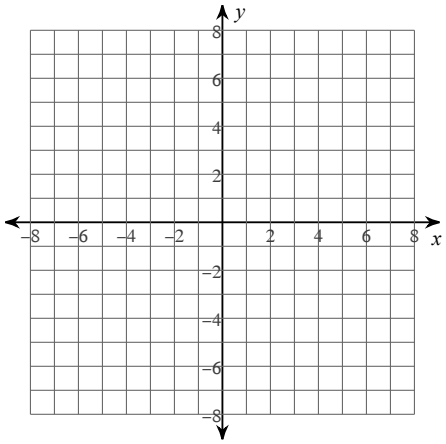
8) $y = \log_3 (x - 2) - 1$



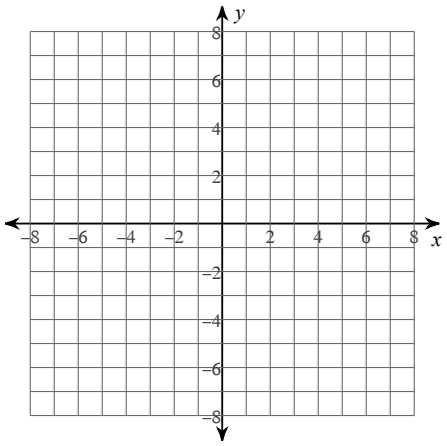
9) $y = \log_{\frac{1}{4}} (x - 1) + 2$



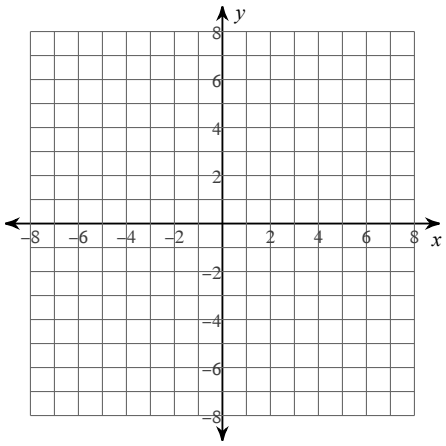
10) $y = \log_2 (x + 5) - 5$



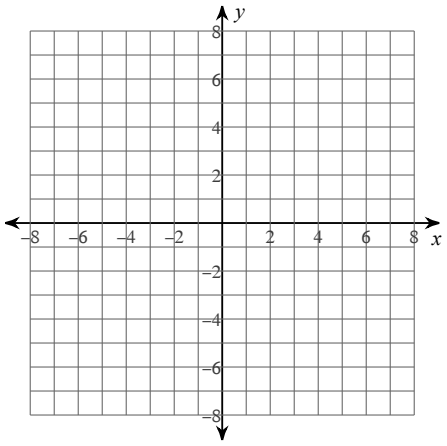
11) $y = \log_3 (x + 6) - 1$



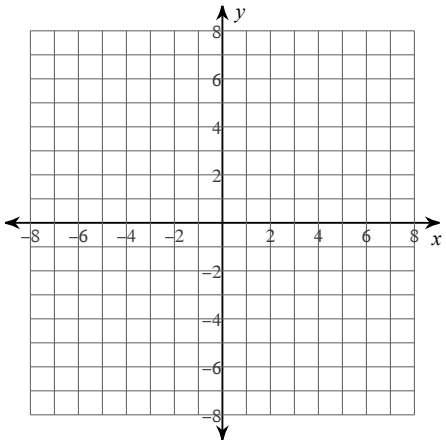
12) $y = \log_3 (x - 1)$



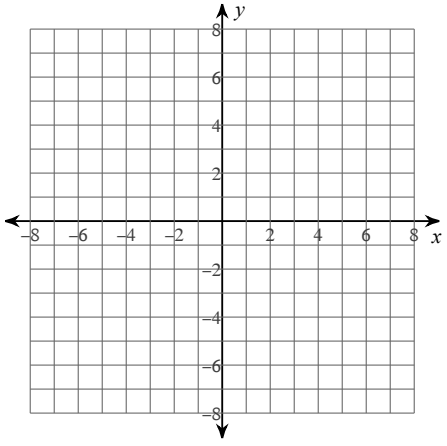
13) $y = \log_4 (x + 5) - 3$



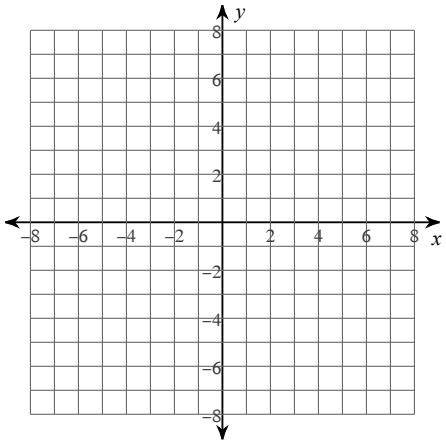
14) $y = \log_{\frac{1}{3}} (x - 1)$



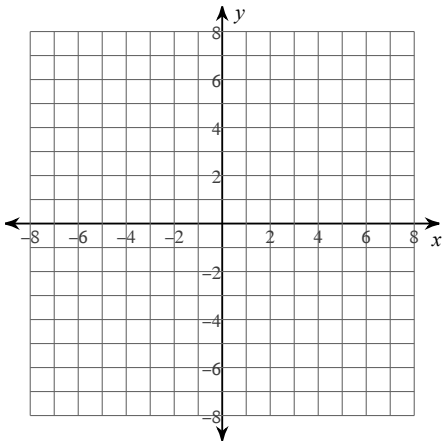
15) $y = \log_{\frac{1}{2}} (x + 3) - 1$



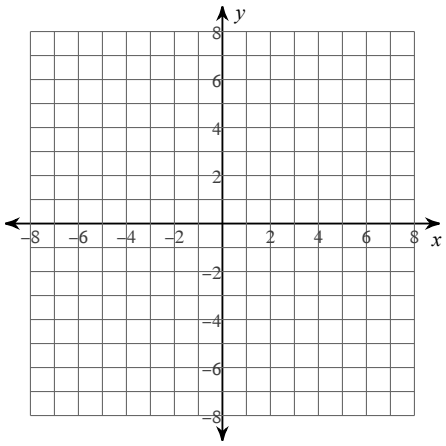
16) $y = \log_3 (x - 1) + 5$



17) $y = \log_3 (x + 6) + 1$



18) $y = \log_2 (x - 1) - 2$



Solve each equation.

19) $4^{2b} \cdot 4^{-b-1} = 16$

20) $64^{2x} = 8$

21) $6^{-3x} = 1$

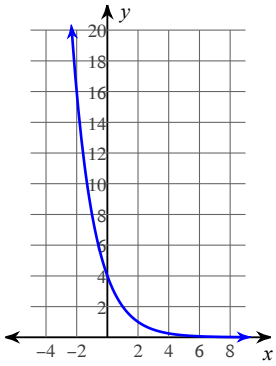
22) $\frac{1}{4} \cdot 16^{-v} = \frac{1}{16}$

23) $4^3 \cdot 4^{3b+3} = 4^3$

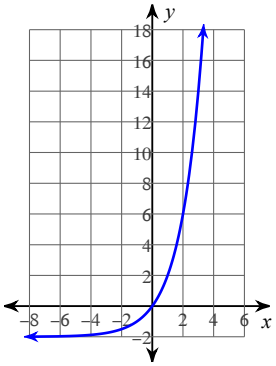
24) $\left(\frac{1}{6}\right)^{2r+2} = 36^{-r}$

Answers to Graphing Log Functions day 1

1)



2)



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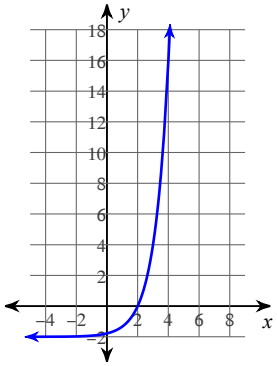
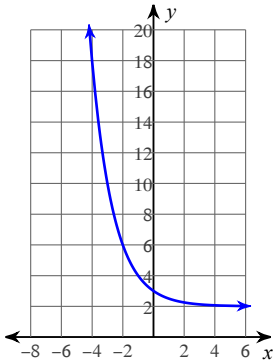
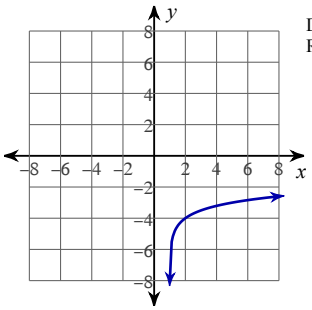


4)

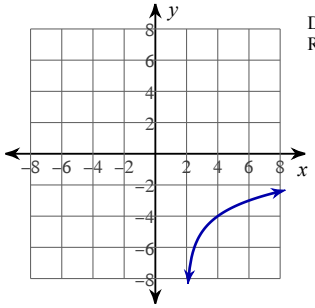


5)



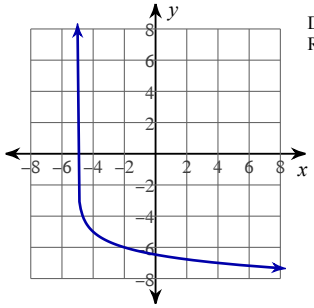
Domain: $x > 1$
Range: All reals

6)



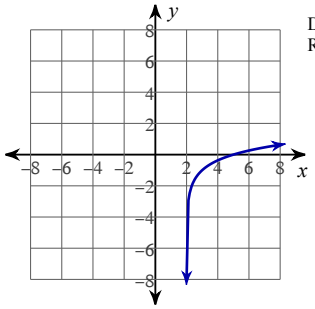
Domain: $x > 2$
Range: All reals

7)



Domain: $x > -5$
Range: All reals

8)



Domain: $x > 2$
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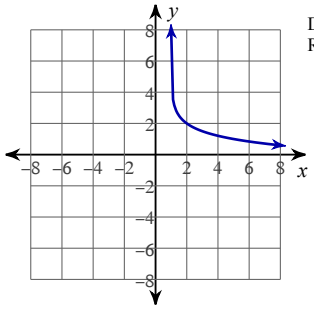
9)



Domain: $x > 1$
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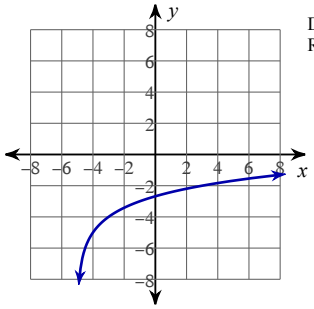
10)



Domain: $x > -5$
Range: All reals

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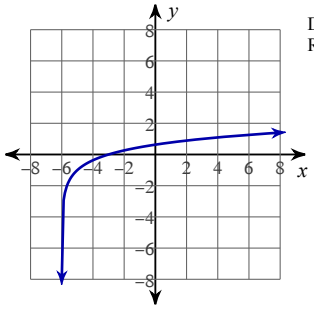

Domain: $x > -6$
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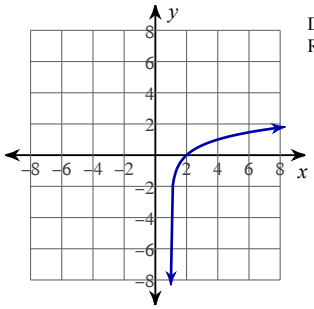
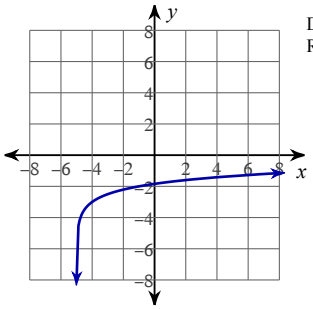
12)



Domain: $x > 1$
Range: All reals

13)



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Range: All reals

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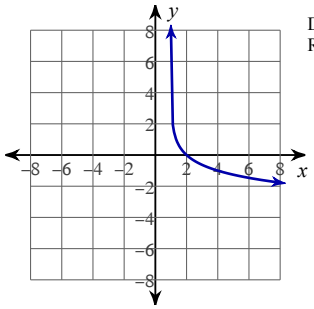

Domain: $x > 1$
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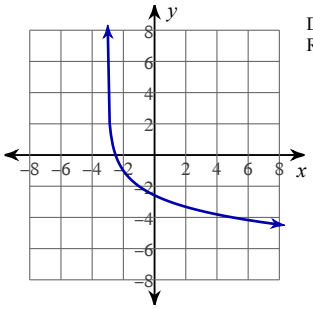

Domain: $x > -3$
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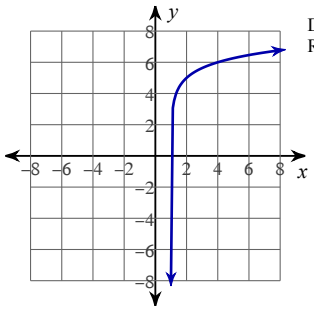

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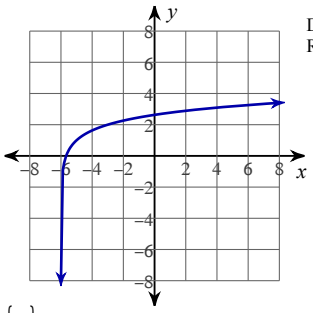

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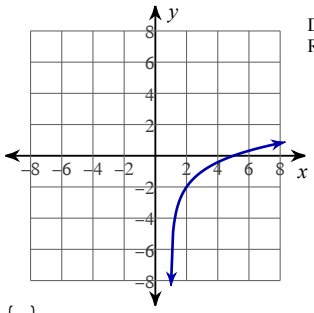

Domain: $x > 1$
Range: All reals

19) $\{3\}$

20) $\left\{\frac{1}{4}\right\}$

21) $\{0\}$

22) $\left\{\frac{1}{2}\right\}$

23) $\{-1\}$

24) No solution.