Chapter 7 Review Topics:

Sections 7.1-7.3 - Exponentials

- graph
- $y = b^x$
- growth vs. decay
  - $b > 1$ e^{+p}
  - $0 < b < 1$ e^{-p}
- asymptotes (k-value)
- Dom: $\mathbb{R}$ & Range: $y > k$, $y < k$
- → make table

Sections 7.4-7.6 - Logarithms

- → convert logs ↔ exp
- → eval logs without a calc
- → eval with a calc (change of base)
- → props of logs
- → solve for x (exp and logs)
- → graphs make a table
- → Dom: $x > h$, $x < h$ & Range: $\mathbb{R}$

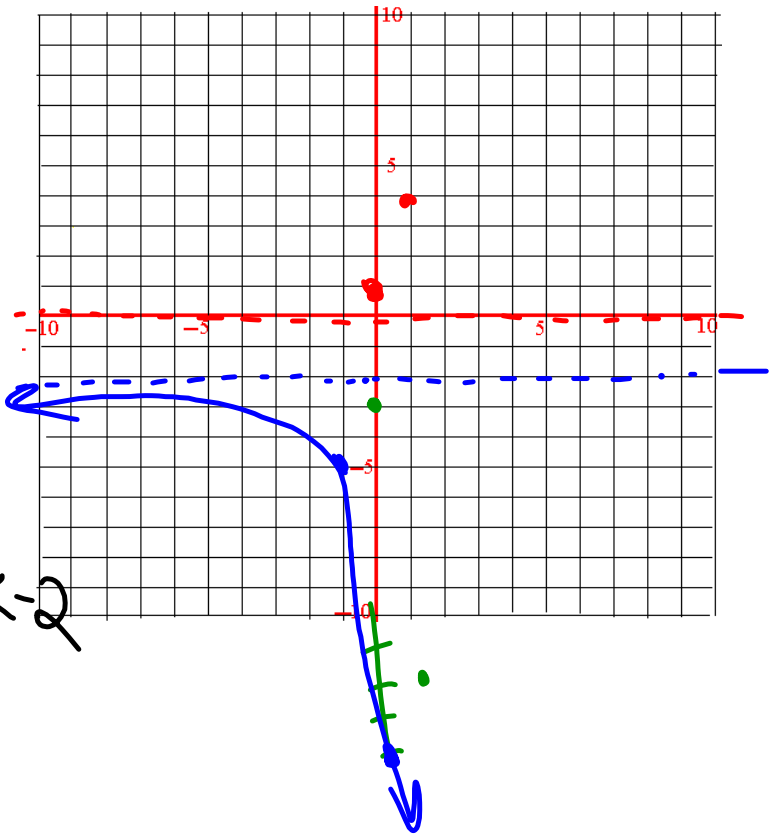
7.1 Graph Exponential Growth Functions

pp. 478–485

Graph the function. State the domain and range.

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

x	y
-2	
-1	
0	



Dom: ℝ

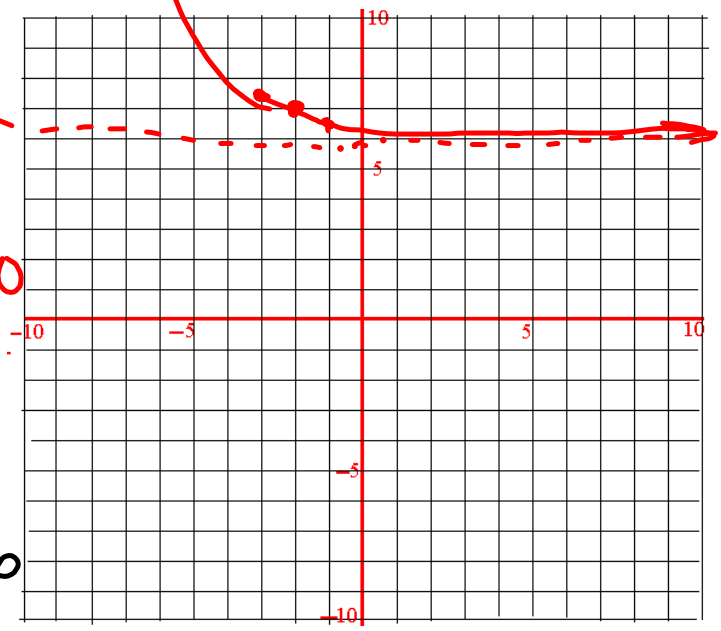
Range: $y < -2$

7.3 Use Functions Involving *e* *pp. 492–498*

Graph the function. State the domain and range.

15. $f(x) = e^{-0.4(x+2)} + 6$

x	y
−3	7.492
−2	7
−1	6.670



Dom: $\mathbb{R}$

Range: $y > 6$

7.4 Find Logarithms and Graph Logarithmic Functions *pp. 499–505*

Evaluate the logarithm without using a calculator.

18. $\log_7 1$

$7^p = 1$

$p = 0$

20. $\log_{125} \frac{1}{5}$

$125^p = \frac{1}{5}$

$5^{3p} = 5^{-1}$

$3p = -1$

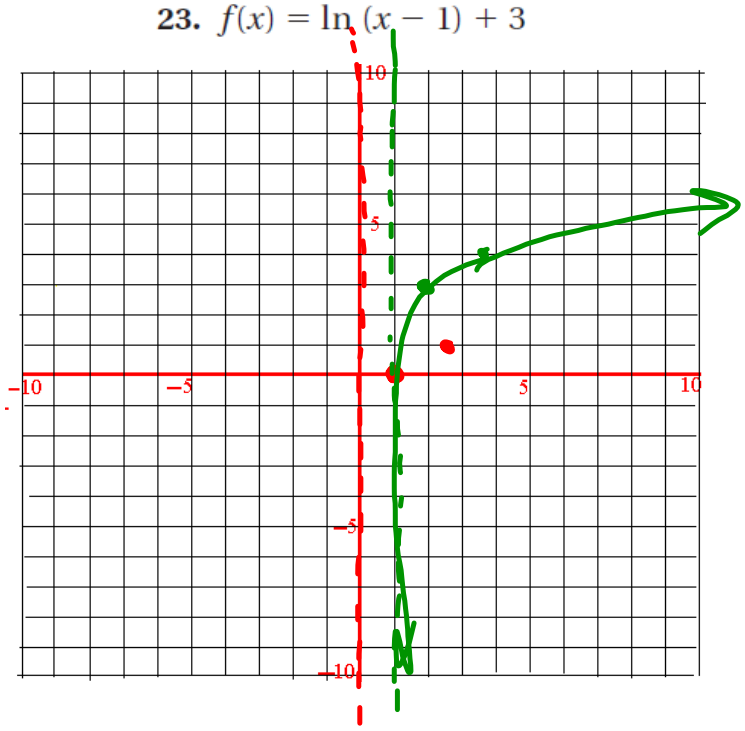
$p = -\frac{1}{3}$

$-\frac{1}{3}$

7.4 Find Logarithms and Graph Logarithmic Functions pp. 499–505

Graph the function. State the domain and range.

23. $f(x) = \ln(x - 1) + 3$



Dom: $x > 1$

Range: $\mathbb{R}$