Answer Key

1. -2.611 **2.** 6.890 **3.** 2 **4.** -3 **5.** $\log_7 343 = x$ **6.** $e^2 = x+8$

7. $\log_4\left(\frac{3136}{49}\right) = \log_4 64 = 3$ **8.** $\log_b\left(\frac{x^2y^5}{z^3}\right)$ **9.** $\log_3 729 + 12\log_3 a = 6 + 12\log_3 a$

10. $4\ln a + 6\ln b - 8\ln c - \ln d$ **11.** $\frac{\log 62}{\log 9} \approx 1.878$ **12.** $x = -6$

13. $x = \frac{\log 76}{\log 4} + 9 \approx 12.124$ **14.** $x = \ln 496 - 2 \approx 4.207$ **15.** $x = 8$ **16.** $x = 60$

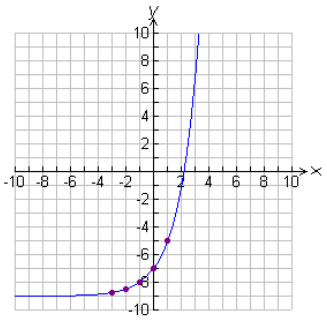
17. $x = 8$ (Omit $x = -4$) **18.** $f^{-1}(x) = \ln(x+17) - 9$ **19.** $f^{-1}(x) = e^x - 8$

20. Approximately 6 years. **21.** $80,946.56 **22.** Approximately 17.3 years.

23. Approximately $78.5°$ F.

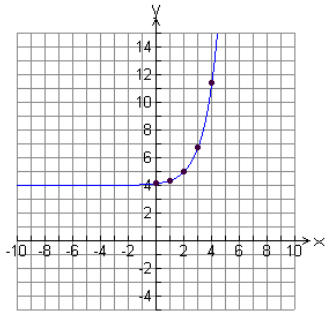
24.

x	$y = 2^{x+1} - 9$
-3	-8.75
-2	-8.5
-1	-8
0	-7
1	-5



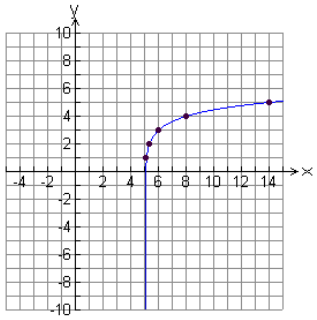
25.

x	$y = e^{x-2} + 4$
0	4.1
1	4.4
2	5
3	6.7
4	11.4



26.

$x = 3^{y-3} + 5$	y
$5\frac{1}{9}$	1
$5\frac{1}{3}$	2
6	3
8	4
14	5



27.

$x = e^{y+2} - 2$	-1.9	-1.6	-1	0.7	5.4
y	-4	-3	-2	-1	0