Pg. 388-389

12. 6 72. 4.0229

16. 1/3 70. 2.7268

20. 0

36. $\log_5 \frac{1}{125} = -3$

37. $\log_8 2 = 1/3$

46. $4^t = 7$

52. $t^k = Q$

56. .9031

80. f(x) $f^{-1}(x)$

pg 358: 90

$y = \log_4 x$

$y = 4^x$

f(x) = f⁻¹(x)

Nov 14-3:08 PM

e

Nov 10-9:02 PM

You have $1 to invest for 1 year. The Exponential Bank offers to pay 100% annual interest, compounded n times per year and rounded up to the nearest penny.

$$A = \left(1 + \frac{1}{n}\right)^n$$

Interest is compounded	N =	$\left(1 + \frac{1}{n}\right)^n$ =
Annually	1	2
Semiannually	2	2.25
Quarterly	4	2.44
Monthly	12	2.61
Daily	365	2.71
Hourly	8760	2.72
Every minute	525,600	2.72
Every second	31,536,000	2.72

Nov 9-10:26 AM

The Number e

e is a special irrational number

e is for Euler, named after Leonard Euler, who is credited for this.

e = 2.718281828

e ≈ 2.72

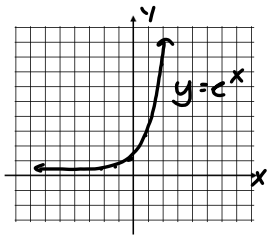
Using your calculator, find:

a. $e^{4.24} = 69.62$ b. $e^{2.14} \approx 8.52$

Nov 9-10:29 AM

Graph $y = e^x$

x	y
-2	.14
-1	.37
0	1
1	2.7
2	7.3



Nov 9-10:29 AM

Describe the transformation needed to transform $g(x) = e^x$ into the graph of the given function:

1. $f(x) = e^{x+2}$ HS left 2
2. $f(x) = e^{-x} + 2$ VS up 2 (y-axis)
3. $f(x) = e^{x-1} - 3$ HS right 1, VS down 3
4. $f(x) = 1 - e^x$: $-e^x + 1$ VS up 1 (x-axis)

To graph any of the above, create a table of values using your calculator...

Nov 9-10:29 AM

If the population of the United States continues to grow as it has recently, then the approximate population of the United States (in millions) in year t will be given by the function:

$P(t) = 317e^{.0071t}$ where 2013 corresponds to t = 0.

a. Estimate the population in 2020.

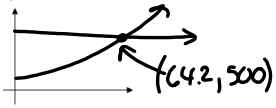
t: 7 table P(7): 333.15 ≈ 333 millions

b. Use your calculator to estimate when will the population reach half a billion.

$Y_1 = 317e^{.0071t}$

$Y_2 = 500$

Xmin 0
Xmax 100
Ymin 0
Ymax 550



2nd trace intersect

2013 + 64.2 : 2077.2

During 2077

By 2078

Nov 9-10:30 AM

Nov 14-7:46 AM