

BE-Algebra 2 Monday 5-2-11

- ① Define e
 - ② What is e to 10 decimal places? (no calculators)
 - ③ What is the change of base formula and how would you use it to find $\log_b X$ for any b using your calculator?
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Alg. 2 Homework Review Pg 557 #4-11, 13, 16

$$\textcircled{4} e^6 = \boxed{403.4288}$$

$$\textcircled{5} e^{-3.4} = \boxed{0.0334}$$

$$\textcircled{6} \ln 1.2 = \boxed{0.1823}$$

$$\textcircled{7} \ln(0.1) = \boxed{-2.3026}$$

$$\textcircled{8} e^x = 4 \Rightarrow \boxed{\ln 4 = x}$$

$$\textcircled{9} \ln 1 = 0 \Rightarrow \boxed{e^0 = 1}$$

$$\textcircled{10} e^{\ln 3} = \boxed{3}$$

$$\textcircled{11} \ln e^{5x} = \boxed{5x}$$

$$\textcircled{13} 2e^x - 5 = 1$$

$$e^x = 3$$

$$x \ln e = \ln 3$$

$$\left(\begin{array}{l} \text{CK } 2e^{1.0986} - 5 \stackrel{?}{=} 1 \\ \quad .9999 \stackrel{?}{=} 1 \checkmark \end{array} \right)$$

$$\therefore \boxed{x = \ln 3 = 1.0986}$$

$$\textcircled{16} 2 \ln 3x + 1 = 5$$

$$\ln 3x = 2$$

$$\therefore e^2 = 3x$$

$$\frac{e^2}{3} = x$$

$$\text{CK } 2 \ln 3(2.4630) + 1 \stackrel{?}{=} 5$$

$$4.00001 + 1 \stackrel{?}{=} 5 \checkmark$$

$$\frac{7.3891}{3} = x$$

$$\boxed{2.4630 = x}$$

Practice $\Rightarrow$ Worksheet (20 problems) ID 28 ODDS

Practice: Logarithmic Equations

Date _____ Period _____

Solve each equation. Round your answers to the nearest ten-thousandth.

1) $10^k = 8$

2) $10^p = 96$

3) $e^v = 28$

4) $e^x = 72$

5) $10^{x-9} = 4$

6) $10^{8n} = 21$

7) $e^{-10m} = 80$

8) $e^{r+9} = 68$

9) $-2 \cdot 10^{10x} = -25$

10) $10^{n-7} + 8 = 30$

11) $-3 \cdot e^{b-2} = -73$

12) $e^{2v} - 5 = 71$

13) $10^{4-4p} - 9 = 79$

14) $2 \cdot 10^{8x-4} = 0$

15) $-e^{8n-4} = -43$

16) $e^{8m+8} + 9 = 79$

17) $4 \cdot 10^{9-2x} + 9 = 70$

18) $10 \cdot 10^{3x-6} - 8 = 6$

19) $3 \cdot e^{7a-9} - 5 = 63$

20) $9 \cdot e^{-9k-3} - 9 = 13$

Answers to Practice: Logarithmic Equations (ID: 28)

1) 0.9031

5) 9.6021

9) 0.1097

13) 0.5139

17) 3.9084

2) 1.9823

6) 0.1653

10) 8.3424

14) No solution.

18) 2.0487

3) 3.3322

7) -0.4382

11) 5.1918

15) 0.9702

19) 1.7316

4) 4.2767

8) -4.7805

12) 2.1654

16) -0.4689

20) -0.4326