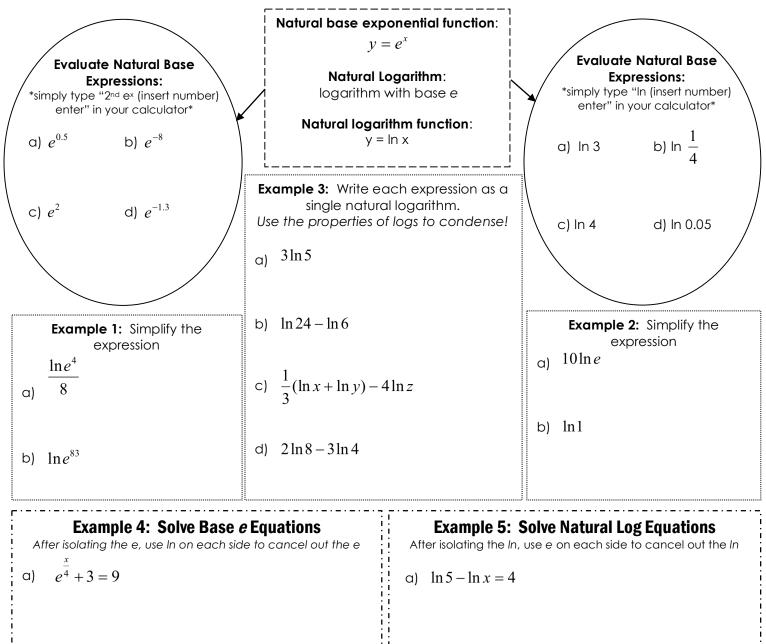
Math 3

## 2.6 Natural Logarithms & Base e

Unit 2

SWBAT solve logarithmic equations involving natural logs and base e.



b) 
$$5e^{-x} - 7 = 2$$

c)  $3e^{-2x} + 4 = 10$ 

d)  $e^{3x+1} = e^{13}$ 

b)  $\ln(2m+3) = 8$ 

c) 
$$\ln \frac{x-3}{4} = 8$$

d)  $3\ln 3x^2 = 1$ 

Applications of Natural Logs and Base	е

<u>***To calculate continuously compounded interest, we use the set of the set </u>	ne formula:	!
i	y =	r =
i	P =	t =
		i

Example 6: How much money will be in a bank account after 1.5 years if you invested \$400 at 7.6% compounded continuously?

Practice: Complete the following problems for class work. Show all work.		
1. Solve $\ln(14x - 3) = \ln(7x + 11)$	2.	Solve $2e^{x} - 5 = 1$

- 3.  $\ln(x-1) = -2$  4.  $\ln(2x-3) = 2.5$
- 5.  $\ln 48 \ln x = \ln 4$  6.  $e^{3x} \cdot e^{x} = 15$
- **Mixed Review:** Remember, all logarithms share the same rules. Always condense first before solving! 7.  $4^{3x} = 12$ 8.  $log_6 x + log_6 9 = log_6 54$ 
  - 9.  $\log_2 x = -3$  10.  $\log_2 64 = x$
  - 11.  $\log_2 x \log_2 5 = 3$

12. ln4x + ln 5 = ln 20

13. Mazie invested \$4500 in an account earning 4.3% interest compounded continuously. After how many years will she have \$7400 in her account?