

## Exponential and Logarithmic Properties/Conversion

Name: \_\_\_\_\_

Evaluate the following values using a calculator.

1)  $2^{5.2}$

2)  $e^2$

3)  $e^5 + 5^2 - 2$

4)  $\log_5 19$

5)  $\ln 5.6$

6)  $\log(10) - 3$

Identify the base of the following expressions.

7)  $\log_6(x^2)$

8)  $\ln(x - 5)$

9)  $15^x$

10)  $\log(22 - 2x)$

Rewrite the equations in exponential form and solve for x.

11)  $\log_7 49 = x$

12)  $\log_x 125 = 3$

13)  $\log_4 \frac{1}{4} = x$

14)  $\log_2 x = 4$

15)  $\log_{16} 4 = x$

16)  $\log_3 x = -2$

**Write the equations in logarithmic form.**

17)  $13^2 = 169$

18)  $9^{3/2} = 27$

19)  $4^{-3} = \frac{1}{64}$

20)  $64^{1/2} = 8$

21)  $9^{-2} = \frac{1}{81}$

22)  $e^5 = 148.413$

**Convert to an exponential or logarithmic equation. Remember to isolate the logarithm first.**

23)  $\log_5(2x) - 7 = h$

24)  $2^{x+6} + 3 = 4$

25)  $a(\ln(x) + k) = h$

26)  $2e^n = k$

27)  $\frac{1}{2}\log_w 7 = x$