Name:_____ Name:_____

Math 9 Chapter 2.1 – 2.2 Review

1. Indicate the base for each of the following powers:

a) 6^3	b) -5^4	c) $(-2)^7$	d) $-(-6)^9$

2. Write each of the following as a single power:

a) $3\times3\times3\times3\times3$	b) $(-4)\times(-4)\times(-4)\times(-4)\times(-4)\times(-4)$
c) $\dfrac{1}{6\times6\times6\times6\times6}$	d) $5^2\times5^2\times5^2\times5^2$

3. Evaluate each of the following powers:

a) 3^5	b) 4^3	c) -5^2	d) $(-2)^3$
e) 1^5	f) 0^2	g) 7^4	h) -4^4
i) $\left(-2^2\right)^3$	j) 10^5	k) $(-5)^3$	l) $-(-6)^4$

4. Write each of the following in standard form:

a) $\left(3\times10^3\right)+\left(7\times10^2\right)$	b) $\left(5\times10^4\right)+\left(4\times10^3\right)+\left(3\times10^2\right)$
c) $\left(6\times10^9\right)+\left(9\times10^7\right)+\left(4\times10^5\right)$	d) $\left(6\times10^2\right)+\left(1\times10^3\right)+\left(7\times10^5\right)+\left(3\times10^7\right)$

5. Solve for "x" in each of the following:

a) $10000=10^x$	b) $10000000=10^x$	c) $1=10^x$
d) $64=2^x$	e) $243=3^x$	f) $(1000)^2=10^{x+1}$
g) $128=2^{x+4}$	h) $8\times256\times1024=2^{2x+4}$	i) $(8)^3=2^{x+1}$

6. Rearrange all the powers below from the lowest to highest without using a calculator:

$2^7, 3^6, 4^5, 5^4, 6^3, 7^2$

7. Given each statement, indicate which symbol $>,\ <,\ or\ =$ should be placed in the box:

a) $4^3 \square 3^4$	b) $2^4 \square 7^3$	c) $10^2 \square 8^3$
d) $(-4)^4 \square 2^6$	e) $(-4)^3 \square 2^5$	f) $-(4)^4 \square 2^6$

8. A house if infested with cockroaches. On the first day, there are 2 cockroaches. If the population doubles everyday, how many will there be in one week?

9. Jack has two job offers. The first job gets paid $5000 each day for a total of 30 days. The second job gets paid 1 penny on the first day and doubles each day afterwards.
   a. If he can work at each job for exactly 30 days, which job will pay more on day 10 and by how much?

   b. Which job will pay more on day 20 and by how much?

   c. Which job will pay more by the end of the month?

10. Given the expression: $5937 = (a \times 10^3) + (5 \times 10^b) + (7 \times 10^c) + (d \times 10^2)$ Find the values of a, b, c and d:

11. John is organizing a conference and the number of people registered triples every day. If there is one person on the first day, 3 by the second day, and so on, how many people will there be by day 10?