Name:_____ Date:_____

Math 8 Section 1.6b Order of Operations with Exponents:

1. Evaluate each of the following operations. Remember the order of the operations. Show all your steps:

a) $4+5^2$	b) 3×2^4	c) $11+3\times 2^3$
d) $3\times 2+3^3$	e) $2^2+3^2+4^2$	f) $4-(1+2)^2$
g) $2(3+4)^2-10$	h) $(4)(1+2)^2$	i) $\left(\sqrt{12+4}\right)-3^2$
j) $\sqrt{3^2+4^2}$	k) $3-2^3\times 4$	L) $3^3-2^2+1^1$
m) $5\times 3^2-4$	n) $(-2)^2+3\,\mathrm{hi}$	p) -2^2+6

Q) $40 \div 2 \times 3^2 - 4$	r) $\dfrac{3^3 - 2^2 + 5}{12 \div 3}$	s) $\dfrac{(21-17) \div 3}{10^2 \div 20}$
t) $2 \times (14 \div 2)^2 + 5 \times 12$	u) $4 \times (13+8) - 8^2 \div (2 \times 4)$	v) $(34+12) \times 8 \div 2 + 2^5$
w) $36 \div (6+3) \times (3^3 + 17) \div 4$	x) $(3^4 \div 9) + 32 - (5 \times 10) + 6$	y) $18 + (57-38) \times 10 + 4^2$

2. Indicate which of the following is bigger? Circle the bigger value:

a) 3^2 *or* 2^3	b) 5^3 *or* 3^5	c) 2^4 or 4^2

3. Challenge: Use numbers 1, 2, 3, and 4, each once to replace variables in $a + b \times c^d$. What is the maximum value of the expression?