Unit 2 Pre Test

NAME: ANSWERS

1. Write the base and the exponent of this power, write as repeated multiplication and standard form: $(3)^7$

base is 3
exponent is 7

$3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 = 2187$

2. Write the base and the exponent of this power, write as repeated multiplication and standard form: $(-5)^6$

base is (-5)
exponent 6

$(-5)(-5)(-5)(-5)(-5)(-5) = 15,625$

3. Which answers are positive?

i) $(5)^3$ } positive
ii) $(-7)^6$ } positive
iii) $(-3)^7$ } negative
iv) $-(6)^3$ } negative

4. Write at as power of 10.

a) One hundred 100 or 10^2

b) 1 000 000
6 zeros 10^6

5. Write as a single power then evaluate:

a) $(3^2)^3$ $3^{2 \cdot 3} = 3^6 = 729$

b) $[(-2)^4]^3$ $(-2)^{4 \times 3} = (-2)^{12} = 4096$

6. Write as a product or quotient of powers

a) $(3 \times 2)^2$ $3^2 \times 2^2$

b) $(3 \div 5)^4$ $3^4 \div 5^4$ or $\frac{3^4}{5^4}$

7. Write 4865 using powers of 10.

$4000 + 800 + 60 + 5$
$(4 \times 10^3) + (8 \times 10^2) + (6 \times 10^1) + (5 \times 10^0)$

8. Evaluate: -2^4 and $(-2)^4$ is there a difference?

$-2 \cdot 2 \cdot 2 \cdot 2$ $\quad\|\quad$ $(-2)(-2)(-2)(-2)$
-16 $\quad\|\quad$ $+16$

9. Write 3×10^6 in standard form.

3×1000000
$= 3000000$

10. State which operation you would do first to evaluate $(6)^0 + [10 \div (-2)]^2 - 2$.

$1 + (-5)^2 - 2$
$1 + (25) - 2$
$26 - 2 = 24$

11. Evaluate: $[(-4)^3 \div (-4)^2 \times (-4)^0] + (-4)^2 \div (-4)^1$

$((-4)^{3-2+0}) + ((-4)^{2-1})$
$(-4)^1 + (-4)^1$
$= -8$

12. Write the quotient of $\frac{(-7)^9}{(-7)^5}$ as a single power.

$(-7)^{9-5}$
$(-7)^4$

13. Express $\left[\left(7^2\right)^4\right]^3$ as a single power of 7.

$7^{2 \times 4 \times 3} = 7^{24}$

14. Write the number 64 as a power with 6 different bases. It's a thinker!!!! Use your brain!!

2^6 4^3 8^2 64^1
$(-2)^6$ $-(-4)^3$ $(-8)^2$