CC Math 6PLUS Name: _____ Date: _____ Period: ____

Unit One Test Review: Long Division, Exponents, and Order of Operations

Remember: Partial credit is granted only when work is shown and comprehensible

Section One: Problem Solving.

1. There are a total of 400 sixth graders. If there are 45 lunch tables in the cafeteria, how many students can sit at each lunch table?

9 STUDENTS

2.Lee was packing brownies into bags that contained a half-dozen brownies each. He had to package 25 brownies. How many bags did he use to pack all of the brownies? 5 BAGS

3. Bethany wants a new iPad that cost $725. She can save $22 each week. She already has $65 saved. How many more weeks of saving does she have left until she will be able to purchase the headphones?

30 WEEKS

Section Two: Exponential Notation

4. Find the value of five cubed. $5^3 = 125$

5. What is the value of 9^0? 1

6. Write (0.5)(0.5)(0.5)(0.5)(0.5) in exponential notation. $(0.5)^5$

7. How would I express 49 using exponential notation and a base of 7? 7^2

8. Carla's home, valued at $230,000, will increase in value according to this formula:

230,000 x 2.2 x 2.2 x 2.2 x 2.2

How would you express this formula using exponential notation? $230{,}000 \times (2.2)^4$

9. What is the value of $(\frac{1}{4})^3$? $\frac{1}{64}$

10.Find the value of 2^5. 32

11. Simplify: $6 \cdot w \cdot 3 \cdot w^2 \cdot 2 \cdot x \cdot x^2 \cdot w^3$ $36w^6x^3$

12. Simplify: $\frac{24d^3 \cdot e^5}{4d^2 \cdot e^2}$ $6de^3$

Section Three: Order of Operations

13. What is the value of the following expression? 97

$$45 + (3^2 - 1)^2 - 6 \cdot 4 + 12$$

14. Evaluate the following expression when x = 2 and y = 5 24

$$x(4y - 2^3)$$

15. Using the correct order of operations, what should you do first? 15+5

$$(15 + 5) \div 5 \cdot 6 - 2^2$$

16. What is the value of the following expression? 14

$$[3\,(24 - 6) + 16] \div 5$$

17. Where would I place parenthesis in the following problem to make it true?

$$(15 - 3) + 7 + 5 = 24$$

18. Using the correct of order of operations, what should you do first? 4^3

$$5(3 + 4^3) + (2 + 5)^2 + 8$$

1. $45\overline{)400}$ = 8.8888 → = **9**

-360

400

2. HALF DOZEN = 6 $6\overline{)25}$ = 4.16...   **5 BAGS**

-24, 10, -6, 40, -36, 40

3. 725 − 65 = 660 $22\overline{)660}$ = 30.

-66, 00

9. $\frac{1}{4} \times \frac{1}{4} \times \frac{1}{4} = \frac{1}{64}$

16 × 4

$16 \times 4 = 64$

10. $2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$

$4 \cdot 4 \cdot 2$

$16 \cdot 2 = 32$

11. $6 \cdot w \cdot 3 \cdot w \cdot w \cdot 2 \cdot x \cdot x \cdot x \cdot w \cdot w \cdot w$ 18 × 2

$36 \cdot w \cdot w \cdot w \cdot x \cdot x \cdot x \cdot w \cdot w \cdot w$

$36 \cdot w^6 \cdot x \cdot x \cdot x$

$36 w^6 \cdot x^3$

12. $\frac{24 d^3 \cdot e^5}{4 d^2 \cdot e^2}$ $\frac{24}{4} = 6$ $\frac{6 d \cdot d d \cdot e e \cdot e \cdot e e}{d d \cdot e e}$ = $6 d \cdot e \cdot e \cdot e$

$6 d e^3$ or $\frac{24 d^3 e^5}{4 d^2 e^2}$ → $6\ d^1\ e^3$ $\frac{24}{4} = 6$ $3 - 2 = 1$ $5 - 2 = 3$

13. $45+(3^2-1)^2-6\cdot4+12$

$45+(9-1)^2-6\cdot4+12$

$45+(8)^2-6\cdot4+12$

$45+64-6\cdot4+12$

$45+64-24+12$

$109-24+12$

$85+12$

$\boxed{97}$

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$45+64-24+12$

$109-24+12$

$85+12$

$\boxed{97}$

14. $x(4y-2^3) \quad x=2 \quad y=5$

$2(4(5)-2^3)$

$2(4(5)-8)$

$2(20-8)$

$2(12)=24$

16. $[-3(24-6)+16]\div5$

$[3(18)+16]\div5$

$[54+16]\div5$

$[70]\div5$

$\boxed{14}$

$[3(24-6)+16]\div5$

$[3(18)+16]\div5$

$[54+16]\div5$

$[70]\div5$

$\boxed{14}$

17. $(5-3)+7+5=1$

$12+7+5$

$19+5$

24