Order of Operations and Exponents Homework   Name _____

Period _____

Evaluate:

1. $12 - 8 \div 2 + 3 \cdot 4$	2. $3 \bullet (5 + 17 - 14) \div 4 + 15$

Fill in the Table:

	Exponent Form	Expanded Form	Standard Form
3.	4^3		
4.		$2 \cdot 2 \cdot 2 \cdot 2$	
5.	3^2		
6.		$8 \cdot 8 \cdot 8 \cdot 8 \cdot 8 \cdot 8 \cdot 8 \cdot 8$	$16,777,216$
7.	$3^2 + 5^2$		
8.		$9 \cdot 9 + 2 \cdot 2 \cdot 2$	89
9.	$2^3 \cdot 3^2$		

Evaluate:

10. $3^3 + 21 \div 7$	11. $4 \bullet 3^2 - 4^3 \div 8$

12. Which of the following statements are true about the following expressions?

$$6^2 - (6 \times 2) \qquad\qquad (4^2 - 2) \times 2$$

    I.   The two expressions are equivalent

    II.   The first expression is eight times as large as the second expression.

    III.   Both expressions are numerical expressions.

13. A teacher asks his students to give meaning to $(2t)^3$. One of the students incorrectly says $(2t)^3$ means $2 \bullet t \bullet t \bullet t$.

Express the repeated multiplication for $(2t)^3$ using multiplication signs.

_____

What is the student's error?

_____

Order of Operations and Exponents Homework   Name ___Key___

Period _____

Evaluate:

1. $12 - 8 \div 2 + 3 \cdot 4$

$12 - 4 + 3 \cdot 4$

$12 - 4 + 12$

$8 + 12$

$\boxed{20}$

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2. $3 \cdot (5 + 17 - 14) \div 4 + 15$

$3 \cdot (22 - 14) \div 4 + 15$ Ⓟ

$3 \cdot 8 \div 4 + 15$

$24 \div 4 + 15$

$6 + 15$

$\boxed{21}$

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Fill in the Table:

	Exponent Form	Expanded Form	Standard Form
3.	4^3	$4 \cdot 4 \cdot 4$	64
4.	2^4	$2 \cdot 2 \cdot 2 \cdot 2$	16
5.	3^2	$3 \cdot 3$	9
6.	8^8	$8 \cdot 8 \cdot 8 \cdot 8 \cdot 8 \cdot 8 \cdot 8 \cdot 8$	16,777,216
7.	$3^2 + 5^2$	$3 \cdot 3 + 5 \cdot 5$	34
8.	$9^2 + 2^3$	$9 \cdot 9 + 2 \cdot 2 \cdot 2$	89
9.	$2^3 \cdot 3^2$	$2 \cdot 2 \cdot 2 \cdot 3 \cdot 3$	72

Evaluate:

10. $3^3 + 21 \div 7$

$3 \cdot 3 \cdot 3$

$27 + 21 \div 7$

$27 + 3$

$\boxed{30}$

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11. $4 \bullet 3^2 - 4^3 \div 8$

$3 \cdot 3 \quad 4 \cdot 4 \cdot 4$

$4 \cdot 9 - 64 \div 8$

$36 - 64 \div 8$

$36 - 8$

$\boxed{28}$

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A S

12. Which of the following statements are true about the following expressions?

$6^2 - (6 \times 2)$

$6 \cdot 6$
$36 - (2$

24

$(4^2 - 2) \times 2$

$4 \cdot 4$

$(16 - 2) \cdot 2$

$14 \cdot 2$

28

~~I.~~ The two expressions are equivalent

~~II.~~ The first expression is eight times as large as the second expression.

(III.) Both expressions are numerical expressions.

13. A teacher asks his students to give meaning to $(2t)^3$. One of the students incorrectly says $(2t)^3$ means $2 \bullet t \bullet t \bullet t$.

Express the repeated multiplication for $(2t)^3$ using multiplication signs.

$2t \cdot 2t \cdot 2t$

What is the student's error?

The student didnt apply the exponent to the 2 as well as the t