Greek Orthodox Patriarchate School
International - Hanina

Unit 1

Name: _____ **Lesson 1.4** **Grade 7A**

Date: _____ **Indices** **Homework (3)**

Directions: Rewrite each of the following exponents in expanded form and then solve. The first example has already been completed for you.

1.) $2^3 = 2 \times 2 \times 2 = 8$

2.) $4^2 =$ _____

3.) $3^3 =$ _____

4.) $5^4 =$ _____

5.) $6^2 =$ _____

6.) $8^3 =$ _____

7.) $10^5 =$ _____

8.) $12^2 =$ _____

9.) $7^4 =$ _____

10.) $1^8 =$ _____

Directions: Rewrite each of the following using exponents. The first example has already been completed for you.

11.) $9 \times 9 \times 9 = 9^3$

12.) $6 \times 6 \times 6 \times 6 =$ _____

13.) $10 \times 10 \times 10 =$ _____

14.) $4 \times 4 \times 4 =$ _____

15.) $12 \times 12 =$ _____

16.) $8 \times 8 \times 8 \times 8 \times 8 =$ _____

17.) $2 \times 2 \times 2 =$ _____

18.) $7 \times 7 \times 7 \times 7 \times 7 \times 7 =$ _____

19.) $3 \times 3 =$ _____

20.) $5 \times 5 \times 5 \times 5 =$ _____

The Power Rule

$$(a^b)^c = a^{b \times c}$$

PART I: Use the power rule to solve each of the following. The first problem has already been solved for you.

1. $(7^2)^3 =$ 7^6
2. $(2^5)^4 =$ _____
3. $(10^6)^2 =$ _____
4. $(8^4)^4 =$ _____
5. $(12^4)^2 =$ _____
6. $(3^9)^3 =$ _____
7. $(2^7)^3 =$ _____
8. $(16^6)^8 =$ _____
9. $(5^{12})^4 =$ _____
10. $(13^{14})^6 =$ _____
11. $(24^6)^{11} =$ _____
12. $(6^9)^3 =$ _____

PART II: Use the power rule to solve each of the following. The first problem has already been solved for you.

13. $(x^5)^2 =$ x^{10}
14. $(y^4)^9 =$ _____
15. $(c^2)^2 =$ _____
16. $(m^{12})^{10} =$ _____
17. $(g^{11})^2 =$ _____
18. $(x^{15})^4 =$ _____
19. $(w^7)^9 =$ _____
20. $(x^{14})^4 =$ _____
21. $(y^7)^7 =$ _____
22. $(z^3)^{17} =$ _____
23. $(r^{25})^5 =$ _____
24. $(x^{16})^6 =$ _____