Greek Orthodox Patriarchate School
International - Hanina

Unit 1

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

Date: _____ **Indices** **Homework (4)**

The Product Property

$$a^b \times a^c = a^{b+c}$$

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

1. $4^3 \times 4^2 = 4^5$
2. $2^5 \times 2^3 =$ _____
3. $9^5 \times 9^5 =$ _____
4. $3^3 \times 3^4 =$ _____
5. $11^2 \times 11^{10} =$ _____
6. $8^4 \times 8^8 =$ _____
7. $5^9 \times 5^5 =$ _____
8. $14^{19} \times 14^{11} =$ _____
9. $6^{16} \times 6^6 =$ _____
10. $10^{13} \times 10^{14} =$ _____
11. $7^7 \times 7^{21} =$ _____
12. $16^{24} \times 16^{19} =$ _____

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

13. $x^3 \times x^7 = x^{10}$
14. $a^6 \times a^2 =$ _____
15. $y^3 \times y^3 =$ _____
16. $x^7 \times x^5 =$ _____
17. $b^{13} \times b^9 =$ _____
18. $m^{11} \times m^{15} =$ _____
19. $y^{20} \times y^{10} =$ _____
20. $s^{23} \times s^6 =$ _____
21. $x^{49} \times x^{51} =$ _____
22. $c^{33} \times c^{51} =$ _____
23. $j^9 \times j^{10} =$ _____
24. $w^{36} \times w^3 =$ _____

The Quotient Property

$$a^b \div a^c = a^{b-c} \quad \text{or} \quad \frac{a^b}{a^c} = a^{b-c}$$

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

1. $9^7 \div 9^5 =$ 9^2
2. $11^{12} \div 11^5 =$ _____
3. $\frac{5^7}{5^3} =$ _____
4. $2^{10} \div 2 =$ _____
5. $\frac{16^{21}}{16^{19}} =$ _____
6. $8^{24} \div 8^9 =$ _____
7. $\frac{17^{30}}{17^6} =$ _____
8. $15^{17} \div 15^7 =$ _____
9. $10^{28} \div 10^{16} =$ _____
10. $\frac{10^4}{10^2} =$ _____
11. $3^{50} \div 3^{27} =$ _____
12. $\frac{32^{40}}{32^{10}} =$ _____

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

13. $x^9 \div x^4 =$ x^5
14. $y^{16} \div y^6 =$ _____
15. $\frac{k^{27}}{k^9} =$ _____
16. $y^{39} \div y^{36} =$ _____
17. $\frac{g^{50}}{g^{49}} =$ _____
18. $m^{60} \div m^{40} =$ _____
19. $\frac{p^{100}}{p^{64}} =$ _____
20. $x^{29} \div x^7 =$ _____
21. $y^{50} \div y^{25} =$ _____
22. $\frac{w^{19}}{w^9} =$ _____
23. $x^{88} \div x^{36} =$ _____
24. $\frac{c^{19}}{c^2} =$ _____