Exponent and Powers Quiz   Unit 8B   Gra~~g~~

Lesson 1

Mark the correct answer.

1. $3^0 =$

   ~~a.~~
   ~~b.~~
   ~~c.~~
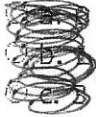
2. Which of the following has the greatest value?

   ○ a. 5^{-2}

   ○ b. $(-2)^0$

   ○ c. 2^1

3. Which of the following is NOT equal to $\left(\frac{3}{4}\right)^a$?

   ○ a. $\left(\frac{4}{3}\right)^a$

   ○ b. 1^{23}
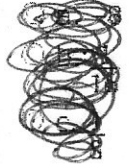
   ○ c. 0^0

4. Which one of the expressions is NOT the same as 6^{-2}?

   ○ a. $\frac{1}{6^{-2}}$

   ○ b. $\left(\frac{1}{6}\right)^2$

   ○ c. $\frac{1}{6^2}$

5. Simplify 4^{-2}

   ~~a.~~
   ~~b.~~
   ~~c.~~

6. $3^2 \times 3^3 =$

   ○ a. 3^5

   ○ b. 3^6

   ○ c. 9^5

7. $2^4 \times 2^3 =$

   ○ a. 2^{12}

   ○ b. 2^7

   ○ c. 4^7

8. $7^{12} \div 7^3 =$

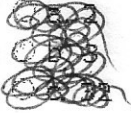   ○ a. 7^4

   ○ b. 7^9

   ○ c. 7^{15}

9. $(3^2)^8 =$

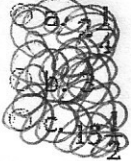   ○ a. 3^{16}

   ○ b. 3^{10}

   ○ c. 3^6

10. Simplify $8^3 \div 4^2$
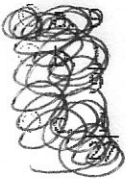
11. Simplify $2^3 + 2^2$

12. Simplify $6^3 \div 4^2$

13. Express $(2^3)^{-2}$ using exponents.

   ○ a. 2^{-6}

   ○ b. 2^{-1}

   ○ c. 2^5

14. Evaluate $(3^{-2})^{-1}$

15. Which power has the value 16?

   ○ a. 8^2

   ○ b. 4^{-2}

   ○ c. $\left(\frac{1}{4}\right)^{-2}$

Extension – Do these too!

Directions: *Determine the value of a in the equations*

1) $(x^a)^6 = x^2 \bullet x^{10}$

2) $(x^{a+1})^5 = x^2 \bullet x^{13}$

3) $(x^{a+4})^2 = x^{12} \bullet x^4$

4) $(x^{a+2})^3 = x^9 \bullet x^6$

5) $(x^a)^2 = x^a \bullet x^1$

6) $(x^{a+4})^3 = x^a \bullet x^{14}$

7) $(x^{a+7})^2 = x^{5a} \bullet x^5$

8) $(x^{a+7})^0 = x^{5a}$