

TEST NAME: **Math 1 Numbers and Quantity Test**
TEST ID: **2093269**
GRADE: **09 - Ninth Grade**
SUBJECT: **Mathematics**
TEST CATEGORY: **My Classroom**

Student: _____

Class: _____

Date: _____

1. Simplify $(2a)^3$.

A. $2a^3$

B. $6a^3$

C. $8a$

D. $8a^3$

2. Which expression is equivalent to $(4x^3y^2)^5$?

A. $5(4x^3y^2)$

B. $5(4x^{3 \times 5}y^{2 \times 5})$

C. $(4^5x^{3 \times 5}y^{2 \times 5})$

D. $(4^5x^{3+5}y^{2+5})$

3. Which expression is equivalent to the square root of the product of 4^2 and 4^8 ?

A. 2^4

B. 2^5

C. 4^4

D. 4^5

4. What is the simplified form of the expression below?

$$\left(\frac{3x^3y^{-4}}{6x^{-2}y^6}\right)^{-1}$$

A. $\frac{x}{2y^2}$

B. $\frac{x^5}{2y^{10}}$

C. $\frac{2y^2}{x}$

D. $\frac{2y^{10}}{x^5}$

5. If $c^3 \cdot c^2 = 32$, what is the value of $c \cdot c^4$?
- A. 5
B. 16
C. 32
D. 64
6. $(3ax)(5ax) =$
- A. $8ax$
B. $8a^2x^2$
C. $15ax$
D. $15a^2x^2$
7. Which expression is equivalent to $(2(fg^2h^3))^4$?
- A. $16f^{12}g^{24}h^{36}$
B. $16f^8g^9h^{10}$
C. $16f^{16}g^{20}h^{24}$
D. $16f^7g^{10}h^{13}$
8. Simplify $(4xy)(-2x)$.
- A. $-8xy$
B. $8xy$
C. $8x^2y$
D. $-8x^2y$
9. Which of the following is equivalent to $(5x^2y^4)(4x^{-2}y)$?
- A. $9y^5$
B. $9xy^4$
C. $20xy^4$
D. $20y^5$
10. If $\frac{a^6}{a^4} = 36$, what does $\frac{a^5}{a^3}$ equal?
- A. 2
B. 8
C. 15
D. 36

11. What value of n makes the equation below true?

$$y^n y^5 = y^5$$

- A. $n = 0$
- B. $n = 1$
- C. $n = 5$
- D. $n = 25$

12. $\left(\frac{24m^{-2}n^4}{16m^3n^{-5}}\right)^{-2} =$

- A. $\frac{3n^9}{2m^5}$
- B. $\frac{2m^{10}}{3n^{18}}$
- C. $\frac{4m^{10}}{9n^{18}}$
- D. $\frac{9n^{81}}{4m^{25}}$

13. Which expression is equivalent to $(3p^2q^3)^2$?

- A. $9p^4q^6$
- B. $3p^4q^6$
- C. $9p^4q^5$
- D. $3p^4q^5$

14. What is the product of $(4a^2b^3c^4) \times (3a^3b^3c)$?

- A. $4a^2b^6c^4$
- B. $7a^5b^6c^5$
- C. $12a^5b^6c^5$
- D. $12a^6b^9c^4$

15. Which expression is equivalent to $(2n^3) \times (7n^5)$?

- A. $9n^8$
- B. $9n^{15}$
- C. $14n^8$
- D. $14n^{15}$

16. Simplify $(2r^3)^2$.
- A. $2r^5$
 - B. $2r^6$
 - C. $4r^5$
 - D. $4r^6$
17. For what value of x is $(3^2)^4 = 3^x$ true?
- A. 2
 - B. 6
 - C. 8
 - D. 16
18. Which expression is equivalent to $6^a \cdot 6^b$?
- A. $6^{\frac{a}{b}}$
 - B. $6^{a \cdot b}$
 - C. 6^{a+b}
 - D. 6^{a-b}
19. Which expression is equivalent to $(5a) \times (5a) \times (5a)$?
- A. $(5 \times 5 \times 5) a$
 - B. $5a^3$
 - C. $15a^3$
 - D. $125a^3$
20. Which expression is equivalent to $(p^2)^3$?
- A. p^6
 - B. p^5
 - C. p^1
 - D. p^{-1}
21. Which expression is equivalent to $(4x^2y^3)^2$?
- A. $4x^4y^6$
 - B. $8x^4y^5$
 - C. $16x^4y^5$
 - D. $16x^4y^6$

22. Which expression is equivalent to 9^{36} ?

- A. $9^2 \times 9^{18}$
- B. $(9^3)^{12}$
- C. $(9^6)^2$
- D. $9^{24} + 9^{12}$

23. Which expression is equivalent to $b^2 \cdot b^6$?

- A. b^3
- B. b^4
- C. b^8
- D. b^{12}

24. Simplify: $\frac{16x^6}{4x^2}$.

- A. $4x^3$
- B. $4x^4$
- C. $4x^8$
- D. $12x^4$

25. Simplify $(3b)^4$.

- A. $81b^4$
- B. $81b$
- C. $12b$
- D. $3b^4$