

Name _____

Date _____

HW #8

Period _____

Directions: Show the necessary steps that you used to get your answer when necessary.

1) The expression $4^3 \cdot 4^4 \cdot 4^5$

- (1) 4^{60}
- (2) 64^{12}
- (3) 4^{12}
- (4) 64^{60}

2) Which of the following is equivalent to $(3x^2y)(10x^5y^3)$?

- (1) $30x^{10}y^3$
- (2) $30x^7y^4$
- (3) $13x^7y^4$
- (4) $13x^{10}y^3$

3) The product of $5x^8$ and $-5x^{10}$ is

- (1) $-25x^{18}$
- (2) x^{18}
- (3) $-25x^{80}$
- (4) $-x^2$

4) Which expression is equivalent to $\frac{x^6}{x^3}$?

- (1) x^2
- (2) x^3
- (3) x^9
- (4) x^{18}

5) The expression $\frac{(3x^2)^4}{9x^3}$ is equivalent to which other expression?

- (1) $\frac{1}{3}x^3$
- (2) $\frac{1}{3}x^5$
- (3) $9x^3$
- (4) $9x^5$

6) Which expression is equivalent to $\frac{x^8y^6}{x^2y^3}$ given $x \neq 0$ and $y \neq 0$?

- (1) x^4y^2
- (2) x^6y^3
- (3) $x^{10}y^9$
- (4) $x^{16}y^{18}$

7) Which expression is equivalent to $\frac{8x^9}{2x^3}$?

- (1) $4x^3$
- (2) $4x^6$
- (3) $6x^3$
- (4) $6x^6$

8) Which expression is equivalent to $(5y^2)(2y^3)$?

- (1) $7y^1$
- (2) $7y^5$
- (3) $10y^1$
- (4) $10y^5$

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

- (1) x^5y^4
- (2) x^5y^6
- (3) x^6y^4
- (4) x^6y^8

10) Simplify: $\frac{12x^5y^9}{3x^4y^6}$

11) Simplify: $\frac{-20x^7y^5z^3}{4x^4y^3z}$

12) Simplify the expression $(4x^3yz^4)(-2x^{-3}y^4z)(-7xy^2z^3)$

13) What is the product of $-4x^3yz^2(-6x^5y^7z^{10} + 5xyz)$

14) Simplify: $\frac{-10x^4+20x^5-4x^4+16x^3+2x^2}{2x^2}$

15) Simplify the following expression: $\frac{(2x^3y)^4}{3x^2(4x^5y^2)}$