

Algebra II Summer Packet Part I

Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. The expression  $2^3 \cdot 4^2$  is equivalent to

- A.  $2^7$     B.  $2^{12}$     C.  $8^5$     D.  $8^6$

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

- A.  $9x^5$     B.  $9x^6$     C.  $27x^5$     D.  $27x^6$

3. The expression  $\frac{(10w^3)^2}{5w}$  is equivalent to

- A.  $2w^5$     B.  $2w^8$     C.  $20w^5$     D.  $20w^8$

4. The sum of  $\sqrt{12}$  and  $5\sqrt{3}$  is

- A.  $10\sqrt{3}$     B.  $7\sqrt{6}$     C.  $7\sqrt{3}$     D. 360

5. Which is equivalent to  $4\sqrt{3}$  ?

- A. 144    B.  $\sqrt{48}$     C.  $\sqrt{19}$     D.  $\sqrt{16}$

6. The expression  $5\sqrt{3} - \sqrt{27}$  is equivalent to

- A.  $8\sqrt{3}$     B.  $-8\sqrt{3}$     C.  $-2\sqrt{3}$     D.  $2\sqrt{3}$

7. The quotient of  $\frac{-18x^6}{6x^3}$  is equal to

- A.  $-3x^3$     B.  $-3x^2$     C.  $-12x^2$     D.  $-12x^3$

8. The product of  $3x^2y^3$  and  $-4x^3y^4$  is

- A.  $-7x^5y^7$     B.  $-x^5y^7$   
C.  $-12x^5y^7$     D.  $-12x^6y^{12}$

9. The quotient  $\frac{16x^3y^5}{4xy^2}$  is equivalent to

- A.  $4x^2y^3$     B.  $4xy^7$   
C.  $12x^2y^3$     D.  $12x^3y^3$

10. The expression  $\frac{y}{x} - \frac{1}{2}$  is equivalent to

- A.  $\frac{2y-x}{2x}$                       B.  $\frac{x-2y}{2x}$   
C.  $\frac{1-y}{2x}$                       D.  $\frac{y-1}{x-2}$

11. What is the least common denominator of  $\frac{1}{2}$ ,  $\frac{2}{7x}$ , and  $\frac{5}{x}$ ?

- A.  $9x$       B.  $2x$       C.  $14x$       D.  $14x^2$

12. What is the sum of  $\frac{3x^2}{x-2}$  and  $\frac{x^2}{x-2}$ ?

- A.  $\frac{3x^4}{(x-2)^2}$                       B.  $\frac{3x^4}{x-2}$   
C.  $\frac{4x^2}{(x-2)^2}$                       D.  $\frac{4x^2}{x-2}$

13. In the equation  $0.03x - 0.1 = 2.6$ , what is the value of  $x$ ?

- A. 9      B. 90      C. 120      D. 130

14. What is the value of  $x$  in the equation  $2(x-3) + 1 = 19$ ?

- A. 6      B. 10.5      C. 9      D. 12

15. What is the value of  $x$  in the equation  $2(x-4) = 4(2x+1)$ ?

- A. -2      B. 2      C.  $-\frac{1}{2}$       D.  $\frac{1}{2}$

16. What is the value of  $x$  in the equation  $\frac{3}{4}x + 2 = \frac{5}{4}x - 6$ ?

- A. -16      B. 16      C. -4      D. 4

17. If  $dx - 2 = h$ , then  $x$  is equal to

- A.  $h + \frac{2}{d}$       B.  $\frac{h-2}{d}$       C.  $\frac{h+2}{d}$       D.  $\frac{h}{d} + 2$

18. What is the solution for the following system of equations?

$$\begin{aligned}2x + y &= 7 \\ x - 2y &= 6\end{aligned}$$

- A. (3, 1)                      B. (1, 3)  
C. (-1, 4)                    D. (4, -1)

19. What is the value of  $y$  in the following system of equations?

$$\begin{aligned}2x + 3y &= 6 \\ 2x + y &= -2\end{aligned}$$

- A. 1                      B. 2                      C. -3                      D. 4

20. Which is a solution for the following system of equations?

$$\begin{aligned}y &= x^2 \\ y &= -2x + 15\end{aligned}$$

- A. (-3, 9)                      B. (5, 25)  
C. (3, 9)                      D. (-5, 3)