

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. Which is equivalent to $4\sqrt{3}$?
 A. 144 B. $\sqrt{48}$ C. $\sqrt{19}$ D. $\sqrt{16}$

5. The quotient of $\frac{-18x^6}{6x^3}$ is equal to
 A. $-3x^3$ B. $-3x^2$ C. $-12x^2$ D. $-12x^3$

6. The product of $3x^2y^3$ and $-4x^3y^4$ is
 A. $-7x^5y^7$ B. $-x^5y^7$
 C. $-12x^5y^7$ D. $-12x^6y^{12}$

7. The quotient $\frac{16x^3y^5}{4xy^2}$ is equivalent to
 A. $4x^2y^3$ B. $4xy^7$
 C. $12x^2y^3$ D. $12x^3y^3$

8. What is the least common denominator of $\frac{1}{2}$, $\frac{2}{7x}$, and $\frac{5}{x}$?
 A. $9x$ B. $2x$ C. $14x$ D. $14x^2$

9. 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. $\frac{4x^2}{x-2}$

10. In the equation $0.03x - 0.1 = 2.6$, what is the value of x ?
 A. 9 B. 90 C. 120 D. 130

11. What is the value of x in the equation $2(x-3) + 1 = 19$?
 A. 6 B. 10.5 C. 9 D. 12

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

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

13. 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

14. 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. $\frac{h}{d} + 2$

15. 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. $(4, -1)$

16. 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

17. 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. $(-5, 3)$

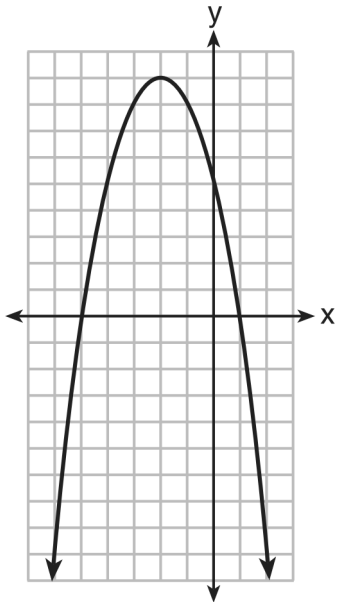
18. Jill invests \$400 in a savings bond. The value of the bond, $V(x)$, in hundreds of dollars after x years is illustrated in the table below.

x	$V(x)$
0	4
1	5.4
2	7.29
3	9.84

Which equation and statement illustrate the approximate value of the bond in hundreds of dollars over time in years?

A. $V(x) = 4(0.65)^x$, and it grows.
B. $V(x) = 4(0.65)^x$, and it decays.
C. $V(x) = 4(1.35)^x$, and it grows.
D. $V(x) = 4(1.35)^x$, and it decays.

19. A relation is graphed on the set of axes below.



Based on this graph, the relation is

- A. a function because it passes the horizontal line test
- B. a function because it passes the vertical line test
- C. not a function because it fails the horizontal line test
- D. not a function because it fails the vertical line test

20. Which ordered pair would not be a solution to $y = x^3 - x$?

- A. $(-4, -60)$
- B. $(-3, -24)$
- C. $(-2, -6)$
- D. $(-1, -2)$