

SCHOOL YEAR: 2017 – 2018

SEMESTER: JANUARY – JUNE 2018

INTEGRATIVE ACTIVITY STAGE I MATHEMATICS II

DATE: JANUARY 2018

MADE BY: MATHEMATICS ACADEMY

SECOND SEMESTER

MATHEMATICS II ACADEMY COORDINATOR: MTRA. ADRIANA I. GARZA CERVANTES

EDUCATIVE PROGRAM: BILINGUAL

NAME OF THE STUDENT: \_\_\_\_\_

GROUP: \_\_\_\_\_

R.N. \_\_\_\_\_

GRADE \_\_\_\_\_

CO EVALUATED BY: \_\_\_\_\_

**I. DIRECTIONS: Read the following questions and circle the correct answer.**

1. The equations with the form:  $ax^2 + bx + c = 0$ , where  $a \neq 0$ , are called

- a) Linear equations      b) Quadratic equation      c) Cubic equation      d) Fractional equation      e) Identity equation

2. It is the distance between a number and the origin (zero) in a numeric line.

- a) Solution set      b) Null set      c) Constant      d) Variable      e) Absolute value

3. If we have  $|x| = 8$  this means that can take the values of:

- a) 8      b)  $8y - 8$       c) -8      d) 0      e)  $8y$  0

4. It is a way to represent the null set.

- a)  $S = \{ \}$       b)  $S = \{0\}$       c)  $S = \{8\}$       d)  $S = \{-1\}$       e)  $S = vacío$

5. What is the number that needs to be added to the following equation so it can be a Perfect Square Trinomial?

$$x^2 + 8x + \underline{\hspace{1cm}}$$

- a) 8      b) 16      c) 4      d) -8      e) -16

6. It is the quadratic formula or the general formula:

- a)  $\frac{\sqrt{b^2 - 4ac}}{2a}$       b)  $\frac{\pm\sqrt{b^2 - 4ac}}{2a}$       c)  $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$       d)  $b^2 - 4ac$       e)  $\frac{b^2 - 4ac}{2a}$

7. It is known as the discriminant.

- a)  $\frac{\sqrt{b^2 - 4ac}}{2a}$       b)  $\frac{\pm\sqrt{b^2 - 4ac}}{2a}$       c)  $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$       d)  $b^2 - 4ac$       e)  $\frac{b^2 - 4ac}{2a}$

8. Any number multiplied by zero is equal to zero, this property is known as:

- a) Of zero      b) Multiplicative of zero      c) Reciprocal of the multiplicative of zero      d) Of the discriminant      e) Of the quadratic equation

9. If the product of two real numbers is equal to zero, then one of these numbers is zero, this property is known as:

- a) Of zero      b) Multiplicative of zero      c) Reciprocal of the multiplicative of zero      d) Of the discriminant      e) Of the quadratic equation

10. A square trinomial  $ax^2 + bx + c$  can be factorized if and only if the discriminant of that trinomial is:

- a) Zero      b) Negative      c) Real      d) Imaginary      e) Perfect square



17.  $5x^2 + 2x = 3$  (*Quadratic formula*)

- a) { }                      b) {0.6, 1}                      c) {0.6, -1}                      d) {-0.6, 1}                      e) {-0.6, -1}

18.  $x^2 - 11x + 18 = 0$  (*Factorization*)

- a) {2, 9}                      b) {-2, -9}                      c) {2, -9}                      d) { }                      e) {-2, 9}

19.  $2x^2 - 5x - 63 = 0$  (*Factorization*)

- a) {4.5, 7}                      b) {-4.5, 7}                      c) { }                      d) {4.5, -7}                      e) {-4.5, -7}

20.  $(x - 3)(x + 7)(2x - 5) = 0$

- a) {-3, 7, 5}                      b) {3, -7, 2.5}                      c) {-3, -7, 2.5}                      d) {3, -7, 2.5}                      e) {-3, 7, -2.5}

**IV. DIRECTIONS: Solve the following application problems.**

21. Jose is 3 years younger than Carlos. The product of their ages is 270, what is the age of each one them?

22. Find a number knowing that the sum with its inverse (reciprocal) is  $\frac{17}{4}$ .

23. The width of a rectangle measures 5 meters less than its length, if the area is  $84 \text{ m}^2$ . Calculate its perimeter.

24. It is required to cover a triangular surface of  $48 \text{ m}^2$ . The base of the triangle measures 4 meters less than its height. Calculate the measures of the base and the height.

25. If the length of a square is extended by 2 meters and the adjacent side is extended by 7 meters, it is obtained a rectangle with an area of  $22 \text{ m}^2$  more than the original square. Calculate the dimensions of that square.