Long Quiz No.1

(Second Grading Period)

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

Yr. & Sec.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_

I*.*DIRECTIONS: Write the letter of the best answer on your answer sheet. All answers must be simplified with the correct unit. Use scientific calculator when necessary.

1. What is the range of the function y = x2 1 ?

A. y - 4 B. y - 4 C. y ≥ - 1 D. y 1

2. What is the result if f(x) = 3x + 5 is subtracted from g(x) = x3 + 2 ?

A. – 2x2 – 3 B.  C.  D. 

3. Which of the following are the zeros of the function y = ( x 5 )( x – 4 ) ?

A. B. C. D.

4. What is the value of g ( − 2 ), if g(x) = 25x – x 2 .

A. – 46 B. 46 C. – 54 D. 54

5. Which will represent the graph of f(x)=3x2 when shifted 5 u. to the left of y-axis and 2 u. below

the x-axis?

A. f(x) = 3x2+5x+2 B. f(x) = 3(x+5)2-2 C. f(x) = 3(x-5)2 +2 D. f(x) = 3x2 -5x-2

6. What is the line of symmetry of the graph of the quadratic function y = x2 – 3 x – 10 ?

A. x = B. x = 3 C. x = D. x =

7. Which one is the vertex of the quadratic function defined in #13?

A. ( ) B. ( 3, ) C. ( ) D. ( ).

8. Find the length of the side of a square whose perimeter is numerically equal to its area.

A. 2 B. 4 C. 8 D. 16

9. What must be the numerical coefficient of x in  to make it a perfect square

trinomial ?

A. 8 B. 12 C. 20 D. 24

10. Which of the following is NOT a quadratic function?

A.  C. g(x)= ( x – 4 )2

B.  D. 

11. What is the product of (2x + 5) and (3x – 7 ) ?

A.  C. 

B.  D. 

12. When factored, what is the solution set of ?

A. { 1, 5 } B. { 1, } C. {  5 } D. { 5 }

13. What equation is obtained when  is solved using completing the square?

A. ( x + )=  C. ( x  )= 

B. ( x + )=  D. ( x  )= 

14. What values of x will make the quadratic equation in #21 true?

A. { } B. { } C. { } D. { }

15. What term is given to the abscissa and the ordinate of a point ?

A. x-value B. y-value C. coordinates D. function value

16. Find the value of the discriminant of 3x2+4x= -5.

A. 22 B. 44 C. -44 D. -22

17. Describe the roots of .

A. imaginary B. real and equal C. rational and unequal D. irrational

18. What must be the value of c in  to make it a perfect square trinomial ?

A. 12 B. 24 C. 36 D. 40

19. What is the vertex of the parabola defined by the equation ?

A.  B.  C.  D. 

20. If ( ) is a factor of the polynomial x2 – 2x + 1, which one is the other factor ?

A. () B. () C. () D. ( x – 1 )

21. Find the equation of a quadratic function whose zeros are 5 and – 3 .

A.  C.  B.  D. 

22. The sides of a rectangular field are of lengths 3x meters and 2x meters. What is the area of

the field in meters?

A.  B.  C.  D. 5x

23. Find the sum of the zeros function f(x) = 3x2+9x-12.

A. 9 B. -9 C. 3 D. -3

24. What is the product of the zeros in #43 ?

A. 12 B. -12 C.4 D. -4

25. If the sum and product of the zeros of quadratic function are 5 and 6, What will be its equation?

A. f(x)=x2-5x+6 B. f(x)=x2-5x-6 C. f(x)=x2+5x+6 D. f(x)=x2+5x-6

26. Give the coordinates of a point which is 3 units below the x-axis and 4 units to the left of the y-axis.

A.  B.  C.  D. 

(27-29) 27. A ball is thrown upward according to the equation f(t) = , where t is in minutes.

How long does it take the ball to reach the ground ?

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

28. How high does the ball in number go?

A. 2 units B. 2.25 units C. 3 units D. 3.25 units

29. How long does it take the ball to reach its highest position before it starts to move down?

A. 1 sec B. 1.5 sec C. 2.5 sec D. 3 sec

30. What is the nature of the zeros if the discriminant is 100?

A. unequal, real, rational C. double zero or equal zeros

B. unequal, real, irrational D. imajinary/conjugate zeros

II. Answer the following and write final answer inside a box or on the given line.(Show the solution)

Write the quadratic function whose zeros are as follows: (use sum and product of the zeros)

1. 3+7i , 3-7i 2. 5+4√2 , 5-4√2

3. Identify the following properties of f(x)= -2(x+5)2 – 3.

a. opening \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d. min./max. value \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. Vertex \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ e. y-intercept \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. axis of symmetry \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ f. range \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Find the zeros of f(x) = 8x2 -14x+3. 5. Find the values of a, b, c in the given table

of values and write the quadratic function.

x -1 0 1 2 3

y -9 -6 -9 -18 -33

6. Find the solution of the quadratic inequality x2 -2x-3>0.(Write solutions at the back.)

Key to Corrections - Mathematics

I II III IV

1. 1. 1. 1. A
2. 2. 2. 2. D
3. 3. 3. 3. B
4. 4. 4. 4. B
5. 5. 5. 5. D
6. 6. 6. 6. B
7. 7. 7. 7. A
8. 8. 8. 8. C
9. 9. 9. 9. A
10. 10. 10. 10. A
11. 11. 11. 11. A
12. 12. 12. 12. B
13. 13. 13. 13. C
14. 14. 14. 14. C
15. 15. 15. 15. D
16. 16. 16. 16. A
17. 17. 17. 17. D
18. 18. 18. 18. A
19. 19. 19. 19. B
20. 20. 20. 20. C
21. 21. 21. 21. A
22. 22. 22. 22. A
23. 23. 23. 23. C
24. 24. 24. 24. A
25. 25. 25. 25. A
26. 26. 26. 26. B
27. 27. 27. 27. A
28. 28. 28. 28. C or D
29. 29. 29. 29. A
30. 30. 30. 30. A
31. 31. 31. 31. A
32. 32. 32. 32. B
33. 33. 33. 33. C
34. 34. 34. 34. C
35. 35. 35. 35. D
36. 36. 36. 36. B
37. 37. 37. 37. D
38. 38. 38. 38. D
39. 39. 39. 39. B
40. 40. 40. 40. B
41. 41. 41. 41. B
42. 42. 42. 42. A
43. 43. 43. 43. B
44. 44. 44. 44. A
45. 45. 45. 45. B
46. 46. 46. 46. B
47. 47. 47. 47. A
48. 48. 48. 48. C
49. 49. 49. 49. B
50. 50. 50. 50. B