**SECOND PERIODICAL TEST IN MATHEMATICS 10**

**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ GR.& SEC.\_\_\_\_\_\_\_\_\_ SCORE:\_\_\_\_\_\_\_\_**

**Directions:** Choose the best answer. Write the letters in the blank.

\_\_\_\_\_1. Which of the following is an example of a polynomial function?

\_\_\_\_\_2. What is the leading coefficient of the polynomial function f(x)=5x2 +3x5 + 7x - 2?

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

\_\_\_\_\_3. How should the polynomial function f(x) =11x + 6x2 + x3 + 6 be written in standard form ?

 A. f(x) = 6x2 +11x + x3 + 6 C. f(x)= 6+11x +6x2 + x3

 B. f(x)= x3 + 6x2 + 11x + 6 D. f(x) =6 + x3 +6x2 + 11x

\_\_\_\_\_4. What is the degree of f(x) = x (x + 3) (x+ 2)?

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

\_\_\_\_\_5. What is the value of the constant term of the polynomial function

P(x) = 2x4 – 13x3 + 30x2 -28x + 8 ?

 A. 2 B. 8 C. -13 D. 30

\_\_\_\_\_6. P(x) = an xn + an-1 xn-1 + an-2 x n-2 + ... + a1 x 1 + a0, an ≠ 0, where n is \_\_\_\_\_\_\_

 A. n is an integer greater than or equal to zero and the coefficient are real numbers.

 B. n is an integers and the coefficient are real nos.

 C. n is any real number and coefficient are all positive real numbers.

 D. n is any real number and coefficient are all negative real numbers

\_\_\_\_\_7. Which of the following is NOT a polynomial functions?

 A. f(x) = 2x3 - 3x2+x-4 C. f (x) = x-3 +2x2 -7

 B. f(x) = (x-5)(9x+1)2(x-4) D. f(x) = 2x4+x5– 3

\_\_\_\_\_8. What do you call the coefficient of the leading term of P(x)?

 A. degree C. X

 B. leading coefficient D. constant

\_\_\_\_\_9. What is the degree of the polynomial function f(x)= x4 - x3 - 3x2 -3x -18?

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

\_\_\_\_\_10. A shopkeeper determines that its profit, P, in pesos, can be modeled by the function

P(x) = 6x2 – 7x – 5 , where x represents the number of shirts sold. What is the profit at x = 150 ?

 A. Php 136,055 C. Php 2855

 B. Php 133,945 D. Php 1800

\_\_\_\_\_11. It is a distance from the center to any point on the circle.

 A. radius C. circumference

 B. diameter D. perimeter

\_\_\_\_\_12. The distance between any two points on the circle which do not pass through the center.

 A. radius C. circumference

 B. chord D. diameter

\_\_\_\_\_13. An angle formed by two rays whose vertex is the center of the circle.

 A. arc C. central angle

 B. sector D. segment

\_\_\_\_\_14. It is an arc with measure equal to one-half the circumference of a circle.

 A. minor arc C. central angle

 B. major arc D. semicircle

\_\_\_\_\_15. An arc with measure less than semicircle.

 A. minor arc C. central angle

 B. major arc D. semicircle

\_\_\_\_\_16. It is the intersection of a tangent line and a circle.

 A. point of intersection C. point of boundary

 B. point of tangency D. point of reference

\_\_\_\_\_17. The region bounded by an arc of the circle and two radii to the endpoints of the arc.

 A. segment C. tangent line

 B. secant line D. sector

\_\_\_\_\_18. A line that intersects the circle at two points.

 A. segment C. tangent line

 B. secant line D. sector

\_\_\_\_\_19. The region bounded by an arc of a circle and the segments joining its endpoints.

 A. chord C. segment

 B. sector D. tangent

\_\_\_\_\_20. A line that intersects the circle at exactly one point.

 A. tangent C. secant

 B. diameter D. chord

\_\_\_\_\_21. A Latin word for secant which means to cut.

 A. tecare C. becare

 B. secare D. decare

\_\_\_\_\_22. Consider this Revenue-Advertising Expense situation.

A drugstore that sells a certain brand of vitamin capsule estimates that the profit P (in pesos) is given by 𝑃 = −50𝑥 3 + 2400𝑥 2 − 2000, 0 ≤ 𝑥 ≤ 32 where x is the amount spent on advertising (in thousands of pesos). An advertising agency provides four (4) different advertising packages with costs listed below. Which of these packages will yield the highest revenue for the company?

 A. Package A: Php 8,000.00 C. Package C: Php 32,000.00

 B. Package B: Php 16,000.00 D. Package D: Php 48,000.00

\_\_\_\_\_23. A car manufacturer determines that its profit, P, in thousands of pesos, can be modeled by the function 𝑃(𝑥) = 0.00124𝑥 4 + 𝑥 − 3, where x represents the number of cars sold.

What is the profit at 𝑥 = 150

 A. Php 75.28 C. Php 3,000,000.00

 B. Php 632,959.50 D. Php 10,125,297.00

\_\_\_\_\_24. A demographer predicts that the population, P, of a town t years from now can be modeled by the function P(t) = 6t4 – 5t3 + 200t + 12 000. What will the population of the town be two (2) years from now?

 A. 12 456 C. 1 245 600

 B. 124 560 D. 12 456 000

\_\_\_\_\_25. Which angle has its vertex on a circle and has sides that contain chords of the circle?

 A. central angle C. inscribed angle

 B. circumscribed angle D. intercepted angle

\_\_\_\_\_26. A circle with a 5 𝑐𝑚-radius has an arc that measures 30°. What is the measure of its arc length? Note: 𝜋 = 3.14

 A. 2.62 𝑐𝑚 B. 2.3 𝑐𝑚 C. 1.86 𝑐𝑚 D. 1.5 𝑐𝑚

\_\_\_\_\_27. What is the sum of the measures of the central angles of a circle with no common interior points? 

 A. 120° B. 240° C. 360° D. 480°

\_\_\_\_\_28. What do you call the shaded region of circle A?

 A. area C. sector

 B. pi D. segment



\_\_\_\_\_29. Given circle 𝐴, what kind of arc is 𝐷𝑀𝑌 ̂ if 𝐷𝑌̅̅̅̅ is a diameter?

 A. circle C. minor arc

 B. major arc D. semicircle

\_\_\_\_\_30. Given circle 𝐴 with semicircle 𝑌𝑆𝐷 ̂ and 𝑚∠𝑆𝐴𝐷 = 70, what is the measure of ∠𝑆𝐴𝑌?

 A. 20⁰ C. 110⁰

 B. 70⁰ D. 150⁰

\_\_\_\_\_31. Which of the following is NOT a measure of a minor arc?

 A. 180⁰ C. 150⁰

 B. 179⁰ D. 100⁰

\_\_\_\_\_32. Suppose 𝑅𝑆̂ = 95°, what must be added to its measure to make a semicircle?

 A. 60⁰ B. 75⁰ C. 80⁰ D. 85⁰

\_\_\_\_\_33. In the Arc Addition Postulate, which of the following is true about the measure of an arc formed by two adjacent non-overlapping arcs?

 A. It is equal to the difference of the measures of these two arcs.

 B. It is equal to the sum of the measures of these two arcs.

 C. It is equal to the quotient of the measures of these two arcs.

 D. It is equal to the product of the measures of these two arcs.

\_\_\_\_\_34. Which of the following statements is true about the intercepted arcs of a central angle?

 A. The measure of the intercepted are is equal to the measure of the central angle.

 B. The measure of the intercepted arc is less than the measure of the central angle.

 C. The measure of the intercepted arc is greater than the sum of the measures of its central

 angles.

 D. The measure of the intercepted arc is equal to the sum of the measure of its central angles.

\_\_\_\_\_35. Which of the following statements is true about the radii of congruent circles?

 A. They are similar. C. They are equal.

 B. They are congruent. D. They are equivalent.

\_\_\_\_\_36. Under what condition can two minor arcs of two congruent circles be congruent?

 A. If and only if their corresponding intercepted arcs are congruent.

 B. If and only if their corresponding adjacent angles are congruent.

 C. If and only if their corresponding central angles are congruent.

 D. If and only if their corresponding adjacent arcs are congruent.

\_\_\_\_\_37. In what condition can a diameter or a radius bisect a chord and its arc?

 A. When the diameter or radius is equal/congruent to the chord

 B. When the diameter or radius is parallel to the chord

 C. When the diameter or radius is perpendicular to the chord

 D. When the diameter or radius is collinear to the chord

\_\_\_\_\_38. Which part is used to name a circle?

 A. center C. diameter

 B. chord D. tangent

\_\_\_\_\_39. Which angle has a vertex on the center of the circle and sides that are radii of that circle? \_\_\_\_ angle.

 A. acute B. central C. inscribed D. intercepted

In the figure on the right,  and  are tangents to

 ⊙ W from an external point X.

\_\_\_\_\_40. Is  congruent to  ? Why?

 A. No, because the two segments from the same exterior point does not connect the circle

 with two points.

 B. No, because the two segments from the same exterior point are not tangents on the circle.

 C. Yes, because the two segments from the same exterior point connects the two points on

 the circle.

 D. Yes, because the two segments from the same exterior point are tangents on the circle.

\_\_\_\_\_41. Is Δ XYW congruent to ΔXZW? Justify your answer.

 A. Yes, because of Hypotenuse leg theorem.

 B. Yes, because of Hypotenuse acute angle theorem.

 C. No, because the two sides of a triangle are not equal.

 D. No because they are not right triangles.

\_\_\_\_\_42. What is the measure of ∠ XYW?

 A. 90° B. 45° C. 100° D. 40°

\_\_\_\_\_43. Suppose m ∠ WXY = . What is m ∠ WXZ?

 A. 30° B. 40° C. 50° D. 60°

\_\_\_\_\_44. If YW = 15 AND YX = 20, what is the length of XW?

 A. 22 B. 23 C. 24 D. 25

\_\_\_\_\_45. It is half of the measure of the diameter.

 A. radius C. arc

 B. chord D. semicircle

\_\_\_\_\_46. It is twice the measure of the radius which is also known as the longest chord.

 A. minor arc C. diameter

 B. major arc D. semicircle

\_\_\_\_\_47. The segment that joins any two points on the circle.

 A. radius C. arc

 B. chord D. semicircle

\_\_\_\_\_48. The arc that measures one-half the circumference of a circle.

 A. radius C. arc

 B. chord D. semicircle

\_\_\_\_\_49. An arc that measures less than the semi-circle.

 A. minor arc C. diameter

 B. major arc D. chord

\_\_\_\_\_50. An arc that measures greater than the semi-circle.

 A. minor arc C. diameter

 B. major arc D. chord

\_\_\_\_\_51. An angle whose vertex is the center of the circle with two radii as its sides.

 A. right angle C. obtuse angle

 B. inscribed angle D. central angle

\_\_\_\_\_52. An angle whose vertex is on a circle with sides containing the chords of the circle.

 A. right angle C. obtuse angle

 B. inscribed angle D. central angle

\_\_\_\_\_53. What is the center-radius form of a circle defined by 𝑥 2 + 𝑦 2 − 2𝑥 + 4𝑦 − 1 = 0?

 A. (𝑥 + 1) 2 + (𝑦 − 2) 2 = 6 C. (𝑥 + 1) 2 + (𝑦 − 2) 2 = 8

 B. (𝑥 − 1) 2 + (𝑦 + 2) 2 = 6 D. (𝑥 − 1) 2 + (𝑦 + 2) 2 = 8

\_\_\_\_\_54. Which of the following is NOT an equation of a circle in general form?

 A. 2𝑥 2 + 2𝑦 2 − 12𝑥 − 20𝑦 + 36 = 0 C. 𝑥 2 + 𝑦 2 + 10𝑦 + 9 = 0

 B. 𝑥 2 + 𝑦 2 − 6𝑥 − 7 = 0 D. 𝑥 2 + 5𝑥 − 6𝑦 + 6 = 0

\_\_\_\_\_55. What is the location of the center of a circle define by (𝑥 + 6) 2 + (𝑦 + 4) 2 = 9?

 A. Quadrant I C. Quadrant III

 B. Quadrant II D. Quadrant IV

\_\_\_\_\_56. What is the equation of the circle whose center is at (4,0) and the radius is 3?

 A. 𝑥 2 + 𝑦 2 − 8𝑥 + 4𝑦 + 7 = 0 C. 𝑥 2 + 𝑦 2 − 8𝑥 + 7 = 0

 B. 𝑥 2 + 𝑦 2 + 8𝑥 − 4𝑦 − 7 = 0 D. 𝑥 2 + 𝑦 2 − 8𝑦 + 7 = 0

\_\_\_\_\_57. The center of a circle is at (7, −2) and the radius is 5 units. What is the equation of the circle?

 A. (𝑥 + 7) 2 + (𝑦 − 2) 2 = 25 C. (𝑥 + 7) 2 + (𝑦 − 2) 2 = 5

 B. (𝑥 − 7) 2 + (𝑦 + 2) 2 = 25 D. (𝑥 − 7) 2 + (𝑦 + 2) 2 = 5

\_\_\_\_\_58. Which of the following are needed to graph a circle on a coordinate plane?

 A. diameter and radius C. radius and tangent

 B. radius and center D. equation and center

\_\_\_\_\_59. If the center of the circle is at the origin, then the coordinates will be \_\_\_.

 A. x is positive, y is positive C. x is negative, y is positive

 B. x is zero, y is zero D. x is positive, y is negative

\_\_\_\_\_60. Which of the following process is needed to graph a circle given its equation in general form?

 A. Cube of a binomial C. Extracting the Roots

 B. Completing the Square D. Using Zero Product Property