

SECOND PERIODICAL TEST IN GRADE 10 MATHEMATICS

Name: _____

Date: _____

Grade & Section: _____

Score: _____

DIRECTIONS: Encircle the letter of the correct answer and write it in the space provided before the number. Read and analyze the questions so you can get a higher score.

____ 1. In the polynomial function defined by $f(x) = a_n x^n + a_{n-1} x^{n-1} + a_{n-2} x^{n-2} + \dots + a_2 x^2 + a_1 x + a_0$ for what set of values is n?

- A. rational number B. integer C. whole number D. counting number

____ 2. Which of the following is a fourth degree polynomial function?

- A. $f(x) = 4 - 4x + 4x^2$ C. $f(x) = 3x^{-4} + 2x^2 - 4$
B. $f(x) = 3^4 x + 25$ D. $f(x) = -3x^4 + x^2 - 10$

____ 3. What is the leading coefficient of the polynomial function $f(x) = 9 - 2x + 6x^2 + 4x^3$?

- A. 3 B. 4 C. 6 D. 9

____ 4. Which of the following is TRUE about the graph of the function $f(x) = (3x - 2)(x + 4)(-x + 1)^2$?

- I. There are three turning points.
II. The behavior of the end part is both rising.
III. The x-intercepts are 1, -4, and $\frac{2}{3}$.

- A. I B. II C. III D. all of the above

For number 5-7, refer to the table given.

	$(-\infty, -2)$	$(-2, 2)$	$(2, 4)$	$(4, \infty)$
$(x+2)$	-	+	+	+
$(x-2)$	-	-	+	+
$(x-4)$	-	-	-	+
$(x+2)(x-2)(x-4)$	-	+	-	+

____ 5. Which polynomial function best described the table of signs?

- A. $f(x) = x^3 - x^2 - 4x - 16$ C. $f(x) = x^3 - 4x^2 - 4x + 16$
B. $f(x) = x^3 - 4x^2 - 4x - 16$ D. $f(x) = x^3 - x^2 - 4x + 16$

____ 6. For what interval/s is the function above the x-axis?

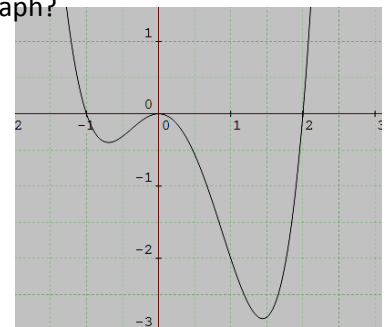
- A. $(2, 4)$ and $(4, \infty)$ B. $(-\infty, -2)$ and $(-2, 2)$ C. $(-2, 2)$ and $(4, \infty)$ D. $(-\infty, -2)$ and $(2, 4)$

____ 7. For what interval/s is the function below the x-axis?

- A. $(2, 4)$ and $(4, \infty)$ B. $(-\infty, -2)$ and $(-2, 2)$ C. $(-2, 2)$ and $(4, \infty)$ D. $(-\infty, -2)$ and $(2, 4)$

____ 8. In the figure at the right, which polynomial function best describes the graph?

- A. $f(x) = x(x + 1)(x - 2)$
B. $f(x) = -x(x + 1)(x - 2)$
C. $f(x) = x^2(x + 1)(x - 2)$
D. $f(x) = -x^2(x + 1)(x - 2)$



____ 9. Which polynomial function crosses the y-axis at 3?

- A. $f(x) = -2x^3 + 5x^2 - x - 3$
B. $f(x) = 3x^3 + 5x^2 - x + 3$
C. $f(x) = 6x^3 + 5x^2 - x - 3$
D. $f(x) = 3x^3 + 5x^2 - x - 9$

____ 10. It is used to determine whether the graph of the zeros of polynomial function crosses or touches the x-axis.

- A. degree B. sign of leading coefficient C. turning points D. multiplicity of zeros

For numbers 11-12

The production department of spare parts and accessories of Honda Motors determines that the number of assorted products that did not pass the quality standard can be modeled by the function $P(x) = x^3 - 2x^2 + x + 2$ where x represents the number of assorted products manufactured per week in hundreds.

____ 11. How many products did not pass the quality standard if they manufactured 300 pieces of spare parts and accessories?

- A. 2 B. 4 C. 14 D. 38

____ 12. The table below shows the relation of the products manufactured to the products that did not pass the quality standard.

x (in hundreds)	1	2	3	4
P(x)	2	4	14	38

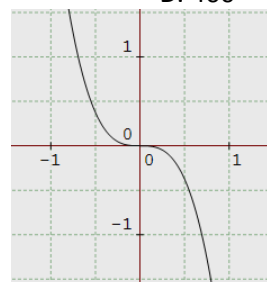
If the production manager wants to maximize production but minimize its reject products, how many assorted pieces should they manufactured per week?

- A. 100 B. 200 C. 300 D. 400

____ 13. For what set of values of a and n will you consider so that the function

$$f(x) = ax^n \text{ could define the graph on the right?}$$

- A. a is negative, n is odd
B. a is negative, n is even
C. a is positive, n is odd
D. a is positive, n is even



____ 14. Edna wants to help her classmate in sketching the graph of $f(x) = x^4 - 16$ using The Leading Coefficient Test. What clue should she give?

- A. The graph falls to the left and rises to the right C. The graph rises to the left and falls to the right
B. The graph rises to both left and right D. The graph falls to both left and right

____ 15. What do you call the set of all points on a plane equidistant from a fixed point called the center?

- A. circle B. equiangular C. equilateral D. regular polygon

____ 16. What do you call an angle whose measure is equal to the measure of its intercepted arc?

- A. inscribed angle B. central angle C. circumscribed angle D. intercepted angle

____ 17. What do you call the part of the circumference of a circle intercepted by central angle?

- A. chord B. secant C. arc D. intercepted angle

____ 18. The measure of the longest chord on a circle is 20 cm. What is the measure of its radius?

- A. 5 cm B. 10 cm C. 15 cm D. 20 cm

____ 19. What kind of inscribed triangle is formed when its longest side is the diameter of a circle?

- A. acute triangle B. right triangle C. obtuse triangle D. cannot be determine

For numbers 20-22, refer to the figure below.

$\overline{AC}$ and $\overline{BD}$ are diameters of circle O.

$$AO = 10 \text{ cm}$$

____ 20. What is the degree measure of arc AD?

- A. 45° C. 90°
B. 60° D. 100°

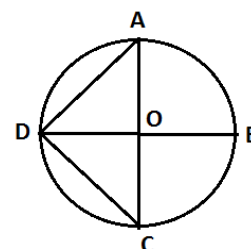
____ 21. Which statement is NOT TRUE about the chords $\overline{AD}$ and $\overline{CD}$?

- A. $AD = CD$ B. $\overline{AD} \cong \overline{CD}$ C. $AD + CD = AC$ D.

$$AD = CD = 10\sqrt{2}$$

____ 22. What is the length of arc AD ?

- A. $\frac{\pi}{2}$ B. 5π C. 10π D. 20π



____ 23. What is the region bounded by central angle and its intercepted arc?

A. area of a circle

B. sector of a circle

C. segment of a circle

D. circumference

For numbers 24-25, refer to the figure on the right.

____ 24. In the figure on the right, if the measure of arc AC is 78° , what is the measure of $\angle ADC$?

A. 19.5°

C. 58°

B. 39°

D. 78°

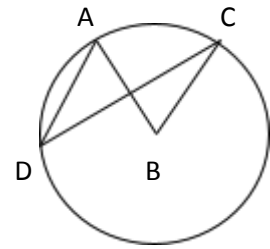
____ 25. If $m\angle ADC = 21^\circ$, what is the measure of $\angle ABC$ of circle B?

A. 10.5°

C. 42°

B. 21°

D. 84°



____ 26. Quadrilateral ABCD is inscribed in a circle. What is the sum of the measures of two opposite angle of the quadrilateral?

A. 90°

B. 135°

C. 180°

D. 360°

____ 27. Point A is an external point of circle X. How many lines you could possibly draw that is tangent to circle X and passes through point A?

A. 1

B. 2

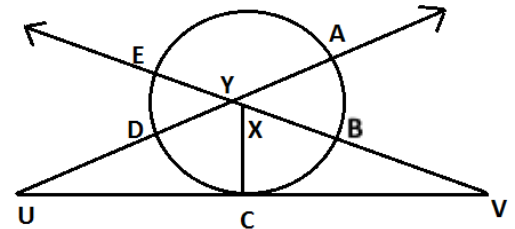
D. 3

D. infinite

For numbers 28-31

In the figure, $\overline{UV}$ is tangent to circle X at C.

$\overline{EV}$ is a secant passing through the center of the circle at X.



____ 28. If the measure of arc AC = 146° and the measure of arc $CD = 84^\circ$, what is the measure of $\angle AUV$?

A. 31°

C. 62°

B. 42°

D. 73°

____ 29. If $BY = 10$, $EY = 3$, and $AY = 8$, what is DY ?

A. 3

B. 3.75

C. 4

D. 5

____ 30. What is the measure of $\angle EYD$ if the measure of arc $ED = 24^\circ$ and the measure of arc $AB = 88^\circ$?

A. 31°

B. 44°

C. 56°

D. 61°

____ 31. What is AD if $UA = 9$ and $UC = 6$?

A. 3

B. 4

C. 5

D. 6

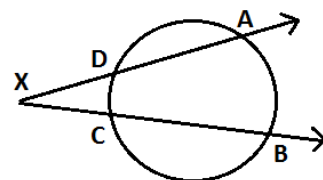
____ 32. In the figure, $AX^{\leftarrow}$ and $BX^{\leftarrow}$ are secant of circle O. Which of the following statements is TRUE?

A. $AX(BC) = BX(AD)$

C. $AD(AX) = BC(BX)$

B. $AX(DX) = BX(CX)$

D. $AD(DX) = BC(CX)$



____ 33. Which of the following is perpendicular to a line tangent to a circle at the point of tangency?

A. arc

B. chord

C. radius

D. secant

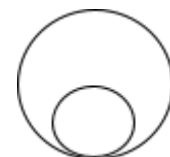
____ 34. What is the appropriate term for the given figure at the right?

A. common internal tangent

C. externally tangent circles

B. common external tangent

D. internally tangent circles



____ 35. If two tangent segments are drawn to a circle from an external point, then the two tangent segments are ____.

A. congruent

B. parallel

C. perpendicular

D. similar

____ 36. The angle between two secants intersecting in the exterior of the circle is 80° . If one of the intercepted arcs is 200° , what is the measure of the other arc?

A. 30°

B. 40°

C. 50°

D. 60°

____ 37. Which of the following equations is TRUE about the distance d between the points (1, 1) and (3, -4)?

A. $d = \sqrt{(1 - 3)^2 + (1 - 4)^2}$

C. $d = \sqrt{(1 + 3)^2 + (1 + 4)^2}$

B. $d = \sqrt{(1 - 3)^2 + (1 + 4)^2}$

D. $d = \sqrt{(1 + 3)^2 + (1 - 4)^2}$

____ 38. Three points A, B and C are collinear. Point B is midpoint of $\overline{AC}$. If A(2, 0) and B(6, 0), what is the coordinate of C?

A. (4, 0)

B. (-2, 0)

C. (8, 0)

D. (10, 0)

____ 39. What is the value of x if the points X(2, 3), Y(5, 6), and Z(x, 0) forms a right triangle with right angle at X?

A. 2

B. 3

C. 4

D. 5

____ 40. What is the distance between A(-1, -3) and B(2, 2)?

A. $\sqrt{2}$

B. $2\sqrt{2}$

C. $2\sqrt{17}$

D. $\sqrt{34}$

____ 41. Quadrilateral PQRS is an isosceles trapezoid, with side $\overline{PQ}$ parallel to side $\overline{RS}$. Which of the following statement is NOT TRUE about quadrilateral PQRS?

A. $PR = QS$

B. $PS = QR$

C. $\angle P = \angle R$

D. $PS = QR$

____ 42. Find the distance between the origin and (3,4)

A. 3

B. 4

C. 5

D. 7

____ 43. If ABCD is a rectangle, A(-6,1), B(-4,6), C(6,2), what should be the coordinates of D?

A. (4,3)

B. (4,-3)

C. (-4,3)

D. (-4,3)

____ 44. What is the coordinates of the other endpoint of a line segment with one endpoint at (6,2) and midpoint at (-4,-1)?

A. (2,1)

B. (10,3)

C. (7,2)

D. (-14,-4)

____ 45. What is the midpoint between (2,2) and (4,2)?

A. (3, 2)

B. (2,3)

C. (4, 2)

D. (2,4)

NOTE:

This free file was submitted to the DepEd Club Team - depedclub.com for compilation.

Full credits and recognition are respectfully given to the original file owner and contributor.

The DepEd Club Team does not claim ownership of these materials and acknowledges the rightful creators.

**SECOND PERIODICAL TEST IN GRADE 10 MATHEMATICS
S.Y. 2018-2019**

KEY TO CORRECTION

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