

**Ethio-Parents' School (Gerji /****Centralized Mathematics Mock Test 5for Grade
8***March 2014***Time allowed 1:00 hour****Max.Marks:100%**

Directions:

1. **READ THE INSTRUCTIONS VERY CAREFULLY. IF YOU HAVE ANY QUESTIONS ASK THE INVIGILATOR BEFORE THE TEST BEGINS. NO QUESTIONS WILL BE ANSWERED AFTER THE TEST HAS BEGUN.**

YOU HAVE EXACTLY 1:00 HOUR TO WORK ON THIS TEST.

2. **THIS EXAMINATION CONTAINS 40 QUESTIONS. THERE IS ONLY ONE BEST ANSWER FOR EACH QUESTION. CHOOSE THE BEST ANSWER FROM THE SUGGESTED OPTIONS AND BLACKEN THE LETTER OF YOUR CHOICE ON THE ANSWER SHEET PROVIDED. YOUR ANSWER MARK SHOULD BE HEAVY AND DARK, COVERING THE ANSWER SPACE COMPLETELY.**
3. **USE PENCIL ONLY TO BLACKEN THE ANSWER SPACE ON THE ANSWER SHEET. IF YOU CHOOSE CHOICE "C", FOR EXAMPLE, MARK THE THIRD SPACE LIKE THE FOLLOWING:**

A B C D . . .

4. **IF YOU WANT TO CHANGE YOUR ANSWER, RUB OUT YOUR FIRST CHOICE COMPLETELY, THEN BLACKEN THE RECTANGLE OF YOUR FINAL CHOICE WITH PENCIL.**

5. YOU MUST DO THE EXAMINATION ON YOUR OWN. ANY FORM OF CHEATING OR AN ATTEMPT TO CHEAT WILL RESULT IN AN AUTOMATIC DISMISSAL FROM THE EXAMINATION HALL AND CANCELLATION OF YOUR MARKS.

DO NOT TURN THE PAGE UNTIL YOU ARE GIVEN THE PERMISSION TO DO SO.

1. The point of intersection between $y = mx (m > 0)$ and $y = mx (m < 0)$ is :

A) $(1,1)$ B) $(-1,-1)$ C) $(0,0)$ D) $(0,1)$

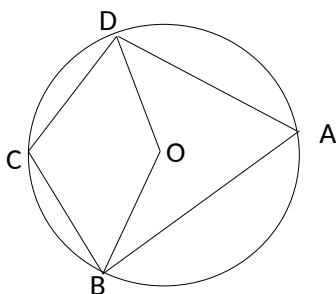
2. In circle O below, if $m(\angle DCB) = 140^\circ$, then which of the following is correct?

A. $m(\angle DOB) = 140^\circ$

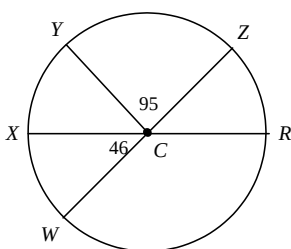
B. $m(\angle DAB) = 70^\circ$

C. $m(\angle DOB) = 70^\circ$

D. $m(\angle DAB) = 40^\circ$

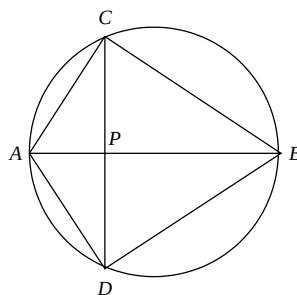


3. $\overline{WZ}$ and $\overline{XR}$ are diameters. Find the measure of arc ZWX. (The figure is not drawn to scale.)



A) 226° B) 141° C) 275° D) 219°

4. $\overline{AB}$ is a diameter, and $\overline{AB} \perp \overline{CD}$. The figure is not drawn to scale.



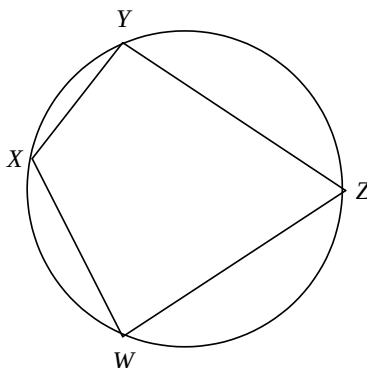
Find $m\angle CAP$ for $m\angle CBD = 66^\circ$.

- A) 114° B) 47° C) 57° D) 67°

5. Referring the figure in question 4 Find $m(\text{arc } BD)$ for $m(\text{arc } AC) = 43^\circ$.

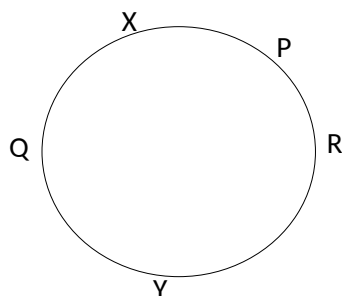
- A) 133° B) 147° C) 157° D) 137°

6. Given: $m\angle X = 150^\circ$, $\overline{WZ} \cong \overline{YZ}$, $m\angle Y = 92^\circ$. Which of the following is **NOT** true?
(The figure is not drawn to scale.)



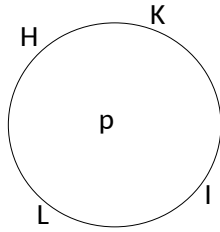
- A) $m(\angle Z) = 30^\circ$ C) $m(\angle W) = 88^\circ$
B) $m(\text{arc } WX) = 60^\circ$ D) $m(\text{arc } WZ) = 150^\circ$

7. In the figure below if QR is diameter of the circle, then the triangle is necessarily



- A) an isosceles
B) an Obtuse angled
C) a right angled
D) an Acute angled

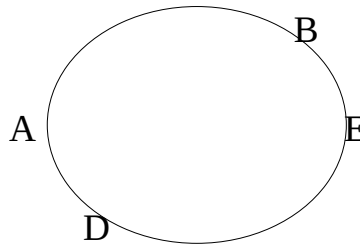
8. In the figure given below, $m(\text{arc HK}) = 20^\circ$ and $m(\angle \text{HPK}) = 60^\circ$, then the degree measure of arc LI is :



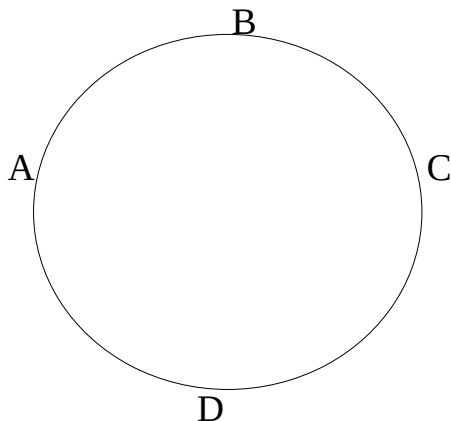
- A) 20°
- B) 60°
- C) 100°
- D) 40°

9. In the circle given below, $m(\text{arc AB}) = 115^\circ$ and $m(\text{arc ED}) = 93^\circ$ and $m(\angle \text{BDE}) = 40^\circ$, then $m(\angle \text{ABD})$ is :

- A) 53°
- B) 36°
- C) 82
- D) 100



10. Which of the following is NOT true about the cyclic quadrilateral below?
BD is a diameter of the circle.



- A) $\triangle \text{DAB}$ is a right angled triangle
- B) $\angle \text{ABC}$ and $\angle \text{ADC}$ are supplementary
- C) $\square \text{ABCD}$ is a rectangle
- D) $\angle \text{DAB}$ and $\angle \text{BCD}$ are supplementary

11. Which of the following statements is always TRUE?

- A) A central angle subtended by a minor arc is an acute
- B) If the sum of one pair of opposite angle of a quadrilateral is 150° , then the quadrilateral can be inscribed in a circle
- C) The perpendicular bisector of any chord of a circle passes through the center of the circle.

D) An inscribed angle subtended by a major arc is an acute.

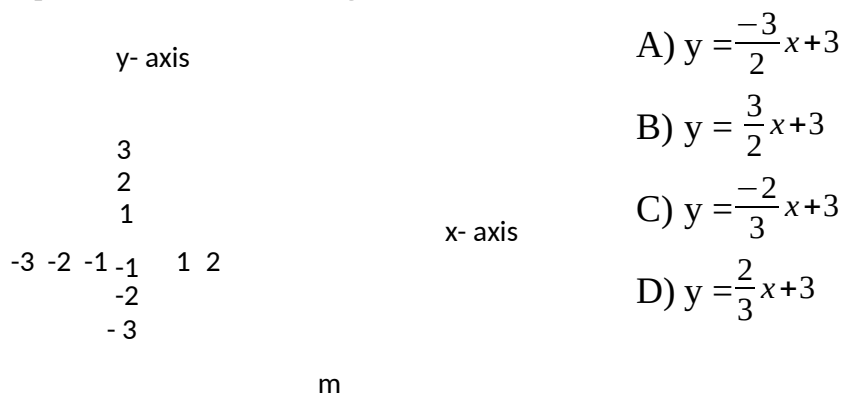
12.If the equation of a line is given by $6x - 3y + 9 = 0$, then which of the followig is **NOT** true ?

- A) The slope of the line is 2
 B) The x –intercept is at $-\frac{3}{2}$
 C) It passes through the origin
 D) The y – intercept is 3

13.Which of the following points does not lie on the line whose slope and y-intercept are 2 and -2 respectively?

- A) (2 ,2) B) (3,4) C) (1, 0) D) (0, -6)

14.The equation of the line m given below is



15.The set of $ax + k < m$ if $a < 0$ is

- A) $\{x: x < \frac{mk}{a}\}$ B) $\{x: x < \frac{m-k}{a}\}$ C) $\{x: x > \frac{m-k}{a}\}$ D) $\{x: x > \frac{mk}{a}\}$

16.If the sum of the ages of a father and his daughter is 50 and five years ago the age of the father is three times of his daughter, then the present age of the father is

- A) 25 B) 30 C) 35 D) 40

17.If $a > b > 0$,then the solution set of the inequality $b + ax > bx + a$ is:

- A) $\{x: x > 1\}$ B) $\{x: x < 1\}$ C) $\{x: x > 0\}$ D) $\{x: x < 0\}$

18. If $a < b < 0 \wedge k \neq 0$, then which of the following statements is TRUE?

- A) $a - k = b - k$ B) $\frac{a}{k} < \frac{b}{k}$ C) $a + k < b + k$ D) $ak < bk$

19. The solution for the equation $\frac{2x}{10-5x} = \frac{2}{5}$ in the set of whole numbers is:

- A) $\{-1\}$ B) $\{1\}$ C) $\{0\}$ D) $\{ \}$

20. Which of the following is equivalent to $\frac{5x-1}{2} = \frac{3x+1}{4}$?

- A) $14x - 4 = 0$ B) $x - 1 = 0$ C) $7x - 3 = 0$ D) $3x - 3 = 0$

21. The solution of $\frac{2}{3}(x-3) - (5-x) = \frac{1}{3}(2-3x)$ in the set of Q is:

- A) $\left\{\frac{13}{4}\right\}$ B) $\left\{\frac{23}{8}\right\}$ C) $\left\{\frac{-13}{4}\right\}$ D) $\left\{\frac{-23}{8}\right\}$

22. If $\frac{3}{4}x - 2 = \frac{1}{3}x + \frac{1}{2}$, then the value of y for $y = \frac{5}{12}x + 1$ is:

- A) $\frac{6}{11}$ B) 6 C) $\frac{7}{2}$ D) $\frac{1}{7}$

23. The solution set of the inequality $\frac{3}{2}x - \frac{1}{4} \geq \frac{1}{6}x + \frac{2}{3}$

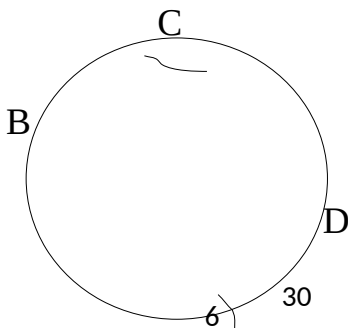
- A) $\left\{x : x \geq \frac{11}{16}\right\}$ B) $\left\{x : x \geq \frac{5}{6}\right\}$ C) $\left\{x : x \geq \frac{2}{3}\right\}$ D) $\{x : x \geq 1\}$

24. A line with equation $3x + 5y = 0$ and a vertical line $x = 5$ intersect at

- A) $\left(5, \frac{2}{5}\right)$ B) $(5, -3)$ C) $(5, 0)$ D) $(5, 1)$

25. In the figure below ABCD is a cyclic quadrilateral with $m(\angle BCD) = 100^\circ$, EF is tangent to the circle at A, then $m(\angle BAE)$

- A) 70°
B) 80°
C) 100°
D) 90°



E A

26. Which of the following equations has no solution in the set of Integers?

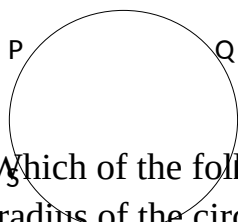
A) $3x+2=5$

C) $4x+1=2x-3$

B) $3-4x=1$

D) $\frac{1}{2}x-1=x$

27. If in the figure given below, $m(\text{arc PQ}) = 140^\circ$ and $m(\text{arc SR}) = 60^\circ$ and lines $PQ \parallel SR$, then $m(\angle QPR)$ is :



A) 60°

C) 70°

B) 40°

D) 50°

28. Which of the following lines drawn to a circle is perpendicular to the radius of the circle at the point?

A) secant of the circle

C) a tangent line of the circle

B) a diameter of a circle

D) a chord of the circle

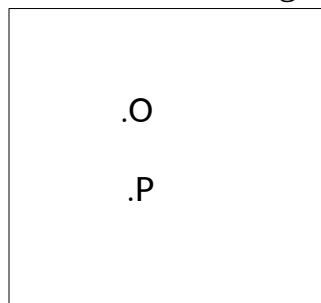
29. In the figure below, P is an interior point of circle O. Which of the following is NOT possible to draw through the point P?

A) a secant line

B) a tangent line

C) a diameter

D) a chord



30. Which of the following statements is TRUE?

A) radius of a circle is also chord of a circle

B) a secant line intersects a circle at only one point.

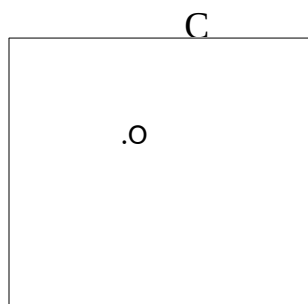
C) diameter is the longest chord of a circle

D) a tangent line intersects a circle at two points.

31. If AB is a diameter of a circle, then which of the following angles is a right angle?

A) $\angle AOB$

B) $\angle CAD$



- C) $\angle CBD$ A B .
 D) $\angle ACB$

D

32. Which of the following is the solution set of the equation $4(2x-1)=20-(3x+2)$?

- A) $\{2\}$ B) $\left\{\frac{5}{11}\right\}$ C) $\{1\}$ D) $\left\{\frac{-1}{2}\right\}$

33. The solution set of $3x \leq \frac{1}{2}(x+15)$ in the set of $\mathbb{Z}^+$ is

- A) $\{1,2,3,\dots\}$ B) $\{3,4,5\}$ C) $\{1,2,3\}$ D) $\{0,1,2,3\}$

34. The equation of a line passing through the points $(-3,4)$ and $(-5,-2)$ is

- A) $5x+2y=10$ C) $4x+10y=-1$
 B) $-6x+2y=26$ D) $10x+y=1$

35. If six times a whole number y increased by 3 is less than 15, then the solution set is:

- A) $\{0,1,2,3,4\}$ B) $\{y : y \leq 2\}$
 C) $\{0,1\}$ D) $\{y : y < 6\}$

36. The slope of a line which passes through $(-2,5)$ and $(2, 5)$ is

- A) 0 B) undefined C) -1 D) 5

37. If $2(5k-3)+4k-1=0$ and $4k+n=6$, then $6k+2n$ is

- A) 16 B) 13 C) 8 D) 11

38. In the set of rational numbers, the solution set of $\frac{2x+5}{2} + \frac{x-7}{3} = \frac{17}{6}$ is:

- A) $\{-2\}$ B) $\{2\}$ C) $\{6\}$ D) $\left\{\frac{1}{2}\right\}$

39. Which of the following lines passes through the point $(3,2)$?

A) $y = 6x - 1$

C) $y = \frac{2}{3}x$

B) $y = x + 4$

D) $y = \frac{1}{2}x + 3$

40. If the line with equation $y = kx + b, k \neq 0$ passes through the point $\left(\frac{1}{k}, 4\right)$, then the y intercept of the line is:

A) 4

B) 3

C) $\frac{k}{4}$

D) $\frac{4}{k}$