

KOLFE KERANIYO SUB CITY WOREDA 03 EDUCATION
OFFICE KARA KORE CLUSTER CENTER

GRADE 8 MATHEMATICS MODEL EXAMINATIONS IN 2016/2023.

NUMBER OF QUESTIONS 40. TIME ALLOWED 1:00 HOUR

GENERAL DIRECTIONS

THIS MODEL EXAMINATION CONTAINS 40 MULTIPLE CHOICE MATH QUESTIONS. THERE IS ONLY ONE BEST ANSWER FOR EACH QUESTION. CHOOSE THE CORRECT ANSWER FROM THE SUGGESTED OPTIONS AND BLACKEN THE LETTER OF YOUR CHOICE ON THE ANSWER SHEET.

USE ONLY PENCIL TO MARK YOUR ANSWERS YOUR ANSWER MARKS SHOULD BE **HEAVY** AND **DARK** COVERING THE ANSWER SPACE COMPLETELY.

PLEASE ERASE ALL UNNECESSARY MARKS COMPLETELY INCLUDING ANSWERS YOU HAVE CHANGED FROM YOUR ANSWER SHEET. YOU ARE ALLOWED TO WORK ON THE EXAM FOR **1 HOUR**.

WHEN TIME IS CALLED YOU MUST IMMEDIATELY STOP WORKING, PUT YOUR PENCIL DOWN, AND WAIT FOR FURTHER INSTRUCTIONS.

ANY FORM OF CHEATING OR AN ATTEMPT TO CHEAT IN THE EXAMINATION WILL RESULT IN AN AUTOMATIC DISMISSAL FROM THE EXAMINATION HALL AND CANCELLATION OF YOUR SCORE(S). PLEASE MAKE SURE THAT YOU HAVE WRITTEN ALL THE REQUIRED INFORMATION ON THE ANSWER SHEET BEFORE YOU START TO WORK ON THE EXAMINATION.

DO NOT TURN THIS PAGE OVER UNTIL YOU ARE TOLD TO DO SO.

NUMBER OF ITEMS 40**TIME ALLOWED 1 HOUR**

INSTRUCTION: READ EACH QUESTION AND CHOICES CAREFULLY THEN MARK YOUR CHOICE ON THE SEPARATE ANSWER SHEET YOU ARE PROVIDED.

- Which one of the following set is a non-empty set?
 - A = the set of natural numbers less than 1.
 - B = the set of cats can fly
 - C = the set of whole numbers between 10 and 11.
 - D = the set of rivers in Ethiopia.
- Which of the following statement is false about relations among set?
 - All equal sets are equivalent.
 - All equivalent sets are equal.
 - Empty set is a subset of any set
 - Any set is a subset of itself.
- If $A \subset B$, then which of the following statement is true?
 - $A \cap B = B$
 - $A \cup B = B$
 - $B \subseteq A$
 - $A \subset B = B \subset A$
- Which one of the following phrase is different from the other?
 - A loss of birr 100
 - Five minutes late
 - 21°C above zero
 - withdrawal of birr 200 from CBE
- Which of the following statement is true?
 - $2.5 \in \mathbb{Z}$
 - $0 \in \mathbb{Z}^+$
 - $-2 \in \mathbb{Z}^-$
 - $0 \in \mathbb{Z}^-$
- The five integers x, y, z, n and m are represented on the number line below, which one of the following statements is correct?

 - $z > x$
 - $m < x$
 - $z > n$
 - $0 \geq z$
- Which one of the following expressions is false?
 - $a - (-b) = a + b$
 - $-a - b = -(a + b)$
 - $-a + b = b - a$
 - $a - b = b - a$
- What is the numerical coefficient of $\frac{-2ab}{3}$?
 - 2
 - $-\frac{1}{3}$
 - $-\frac{2}{3}$
 - 3
- Which of the following pair of terms are like term?
 - xy^2 and y^2x
 - $3x^2$ and $2x^3$
 - $20xy$ and ab
 - $-2x^2y^2$ and $-2xy$
- The sum of the ages of a man and his wife is 83. The man is 3 years older than his wife. How old is a man?
 - 40
 - 43
 - 83
 - 80

11. If a point of (2, 8) lies on line $y = mx$, then what is the value of m ?
A. 2 B. 8 C. 4 D. 6
12. Which of the following is the slope of the line $y - 2x = 0$?
A. -2 B. 2 C. $\frac{-1}{2}$ D. $\frac{1}{2}$
13. Which one of the following equation is equation of horizontal line?
A. $y = 3x$ B. $y + 1 = 0$ C. $x - 3 = 0$ D. $3x - 2 = 2x + 1$
14. A wire of length 240cm is cut in to 3 pieces, in the ratio 1: 2: 5, what is the smallest length of wire?
A. 60cm B. 30cm C. 150cm D. 90cm
15. The decimal form of $\frac{3}{4}\%$ is:
A. 0.75 B. 0.075 C. 0.0075 D. 0.057
16. There are 40 questions on a model exam and Mayco answered 75% of them correctly. How many questions correctly answered by Mayco?
A. 30 B. 10 C. 75 D. 25
17. If “b” is directly proportional to “a” and $b = 30$ when $a = 20$, then what is a when $b = 42$?
A. 20 B. 30 C. 24 D. 28
18. Which one of the following is not equal to the rest?
A. 2% of 150 B. $\frac{3}{2}\%$ of 400 C. 5% of 60 D. $\frac{3}{2}\%$ of 200
19. A person wants to buy a car from TOYOTA company. If the price of the car including VAT is birr 5,750,000, then what is the price of the car before VAT?
A. 4,887,500 B. 5,750,000 C. 5000, 000 D. 750,000
20. The area of rhombus whose diagonals are 12cm and 18cm is _____.
A. 108cm^2 B. 216cm^2 C. 80cm^2 D. 160cm^2
21. The perimeter of kite with its opposite sides are 5cm and 12cm is _____.
A. 60cm B. 34cm C. 17cm D. 30cm
22. The area of rectangular field is 48cm^2 . If the length of the base of the field is 12m, then perimeter of the field is _____.
A. 140m B. 52m C. 32m D. 80m
23. Which of the following statement is false?
A. All squares are rhombus.
B. All rectangles are parallelogram.
C. Kite has two pairs of consecutive congruent sides.
D. A quadrilateral with congruent diagonal necessarily rectangle.
24. The area of trapezium is 48cm^2 and its height is 4cm. if one of the base is 4cm more than the other base, then what is the larger base of the trapezium?
A. 40cm B. 14cm C. 10cm D. 20cm

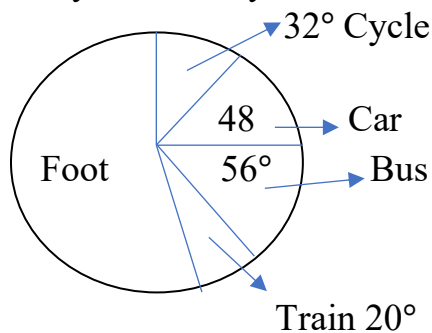
25. If $\triangle ABC \cong \triangle DEF$ then $\overline{AC} = \overline{DF}$, $\overline{AB} = \overline{DE}$, $\overline{BC} = \overline{EF}$, which congruency theorem used to prove the statement?

- A. SSS B. ASA C. SAS D. AAS

26. If $\triangle ABC \cong \triangle PQR$, then which of the following is not true?

- A. $\overline{BC} = \overline{QR}$ B. $\angle B = \angle Q$ C. $\angle ABC = \angle PQR$ D. $\overline{BC} = \overline{PR}$

27. 1440 students were asked how they travelled to school. The pie chart shows the results of this survey; how many students travelled on foot?



- A. 192 C. 128
B. 816 D. 224

28. Students are arranged in eleven classes. The class sizes are 23, 24, 24, 26, 27, 28, 30, 24, 29, 24, 27, then what is the modal class size?

- A. 23 B. 26 C. 24 D. 27

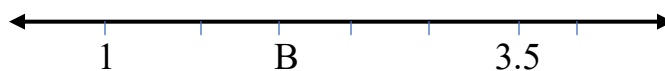
29. If the mean of 7 numbers is 20 and the mean of 5 other numbers is 44, then what is the mean of all 12 numbers?

- A. 140 B. 220 C. 360 D. 30

30. From the given set of numbers below, 8, 10, 12, 14, 7, 16, 5, 7, 9, 11, then what is the median of the given numbers?

- A. 9 B. 10 C. 9.5 D. 19

31. Consider the following number line below,



What is a reasonable value for point B?

- A. 0.5 B. 3.6 C. -0.2 D. 2

32. What is the solution set of the equation $4|x+3| = 12$?

- A. $\{ \}$ B. $\{0, 6\}$ C. $\{-6, 0\}$ D. $\{0, 4\}$

33. Which of the following statement is false?

- A. $\left| \frac{-3}{5} \right| = \frac{3}{5}$ B. $3\frac{5}{6} > 3\frac{7}{8}$ C. $\frac{8}{20} > 0.35$ D. $3\frac{4}{7} = \frac{25}{7}$

34. a farmer has sheep and hens. The sheep and hens together have 90 heads and 240 legs. How many sheep does the farmer have?

- A. 50 B. 70 C. 30 D. 20

35. What is the sum of $2\frac{1}{3} + \frac{3}{8} + 3\frac{5}{6}$?
A. $6\frac{13}{24}$ B. 68 C. $65\frac{5}{8}$ D. 65
36. Eleni baked a batch of 32 cupcake and iced 24. Then what fractions of cupcakes were iced?
A. $\frac{8}{32}$ B. $\frac{32}{24}$ C. $\frac{3}{4}$ D. $\frac{1}{4}$
37. Which one of the following statements is incorrect?
A. $-60^2 = -3600$ C. $X^2 = 2x$, where $X \in \mathbb{Q}$
B. $(-30)^2 = 900$ D. $\left(\frac{a}{b}\right)^2 = \frac{a^2}{b^2}$, where $b \neq 0$
38. What is the approximate value of x^2 , if $x = 10.8$?
A. 100 B. 11 C. 121 D. 10
39. Which one of the following numbers is both perfect square and perfect cube?
A. 81 B. 169 C. 729 D. 32
40. If $(4.63)^2 = 21.44$, then what is $\sqrt{2144}$?
A. 4.63 B. 46.3 C. 463 D. 0.463