

KOLFE KERANIO SUB-CITY EDUCATIONAL OFFICE
MATHEMATICS MODEL EXAMINATION
FOR GRADE EIGHT

GINBOT 2016 E.C/MAY 2024G.C
NUMBER OF QUESTIONS: 40
TIME ALLOWED: - 1HOUR

GENERAL DIRECTIONS

THIS BOOKLET CONTAINS MATHEMATICS EXAMINATION.

IN THIS EXAMINATION, THERE ARE A TOTAL OF 40 MULTIPLES CHOICE QUESTIONS.

CAREFULLY SELECT THE BEST ANSWER AND BLACKEN ONLY THE LETTER OF YOUR CHOICE ON THE SEPARATE ANSWER SHEET PROVIDED.

FOLLOW THE INSTRUCTIONS ON THE ANSWER SHEET AND THE EXAMINATION PAPER CAREFULLY.

USE ONLY PENCIL TO MARK YOUR ANSWER.

YOUR ANSWER MARK SHOULD BE **HEAVEY** AND **DARK**, COVERING THE ANSWER SPACE COMPLETELY.

PLACE ERASE ALL UNNECESSARY MARKS COMPLETELY FROM YOUR ANSWER SHEET.

YOU ARE ALLOWED TO WORK ON THE EXAM FOR 1HOUR.

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).

PLACE MAKE SURE THAT YOU HAVE WRITTEN ALL THE REQUIRED INFORMATION ON THE ANSWER SHEET BEFORE YOU START TO WORK ON THE EXAMINATION.

DONOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO

CHOOSE THE CORRECT ANSWER FROM THE GIVEN FOUR ALTERNATIVES

----1. Which of the following is always true for any rational number y ?

- A. $|y|=y$ B. $|-y|=y$ C. $-|y|=|y|$ D. $|-y|=|y|$

----2. If N , W , Z and Q represent the set of natural, whole, integer and rational numbers respectively, among the relation given below which one is correct?

- A. $W \subseteq N$ B. $Z \subseteq W$ C. $Q \subseteq Z$ D. $Z \subseteq Q$

----3. Sene, Hamle and Nehase are rainy months in Ethiopia. Which fractional part of the year is Rainy? A. $\frac{1}{4}$ B. $\frac{3}{4}$ C. $\frac{7}{12}$ D. $\frac{5}{12}$

----4. If $2 - 2|2x + 1| = 0$ then the value of x is_____.

- A. $x = -1$ and $x = 1$ C. $x = 0$ and $x = -1$
B. $x = 0$ and $x = 1$ D. $x = -1$ and $x = 2$

----5. Which of the following rational numbers is equivalent?

- A. $\frac{2}{5}, \frac{10}{25}, \frac{60}{200}$ B. $\frac{4}{5}, \frac{8}{10}, \frac{16}{30}$ C. $\frac{2}{3}, \frac{14}{21}, \frac{21}{36}$ D. $\frac{7}{3}, \frac{21}{9}, \frac{63}{27}$

----6. Arrange the following rational numbers in ascending order $\frac{1}{2}, \frac{3}{4}, \frac{1}{3}, \frac{2}{3}$.

- A. $\frac{3}{4}, \frac{2}{3}, \frac{1}{3}, \frac{1}{2}$ C. $\frac{1}{3}, \frac{1}{2}, \frac{2}{3}, \frac{3}{4}$
B. $\frac{1}{2}, \frac{1}{3}, \frac{2}{3}, \frac{3}{4}$ D. $\frac{1}{2}, \frac{3}{4}, \frac{1}{3}, \frac{2}{3}$

----7. The value of $-3\frac{2}{5} + \frac{17}{5}$ is _____ A) 2 B) 0 C) -1 D) -2

----8. The simplified form of $[(\frac{1}{2} + \frac{1}{2}) \div \frac{1}{2}] \times [(\frac{2}{3} + \frac{1}{3}) \div \frac{1}{4}]$ is_____.

- A. 8 B. 2 C. $\frac{1}{2}$ D. $\frac{1}{8}$

----9. Which one of the following decimals is a perfect square?

A. 0.064

B. 0.144

C. 0.81

D. 0.025

----10. In the expression $9^2 = 81$, we call 2 is _____.

A. Base

B. Power form

C. Exponent

D. Standard form

----11. From the square root table $(1.83)^2 = 3.349$, then $(18.3)^2 =$ _____.

A. 334.9

B. 33.49

C. 3.349

D. 3349

----12. The simplified form $\sqrt{7.2 \times 0.2}$ of is:

A. 0.12

B. 1.2

C. 2

D. 3

----13. Which of the following is true about cubic numbers?

A. $\left(\frac{a}{b}\right)^3 = \frac{a^3}{b}$

C. $\left(\frac{a}{b}\right)^3 = \frac{a^3}{b^3}$

B. $(ab)^3 = a^3b$

D. $(aXa)^3 = a^3b$

----14. The volume of a cube is 216cm^3 . What is the length of each edge?

A. 18cm

B. 14.7cm

C. 12cm

D. 6cm

----15. Name the quadrant in which the point of P(x, y) lies when $x < 0$ and $y > 0$.

A. 1st quadrant

C. 3rd quadrant

B. 2nd quadrant

D. 4th quadrant

----16. Through which quadrants does the line $y = -3$ pass?

A. I and II

B. III and IV

C. II and III

D. I and IV

----17. If the point p (4, m) lies on the line given by the equation $6x - 2y = 0$, then what is the value of m?

A. 12

B. 8

C. 2

D. 10

----18. What is the value of x if $3(x+2) - (5x-1) \leq (5x-1) - 2(x+6)$?

A. $x < -4$

B. $x \leq -4$

C. $x > 4$

D. $x \geq 4$

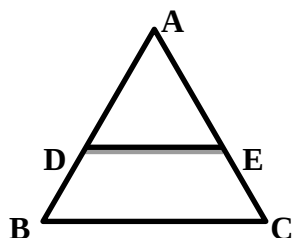
---19. The sum of two certain rational numbers is 30 and one of the numbers is four times the other, what are these two numbers?

- A. 4 and 24 B. 5 and 25 C. 7 and 24 D. 6 and 24**

----20. Which of the following plane figures are always similar?

- A. Any two squares** **C. Any two parallelograms**
- B. Any two rectangles** **D. Any two isosceles triangles**

----21. In $\triangle ABC$, DE is parallel to BC, AD=6cm, DB=8cm and AE=9cm. How long is AC?



- A. 5cm**
B. 12cm
C. 21cm
D. 24cm

----22. Among the given alternatives, which one is NOT in similarity theorem?

- A. SSS similarity theorem

B. SAS similarity theorem

C. AA similarity theorem

D. SS similarity theorem

---23. The sum of the perimeters of two similar polygons is 28cm. The ratio of the corresponding side is 3:4. The perimeter of the larger polygon is _____.

- A. 7cm B. 12cm C. 16cm D. 21cm**

24. The measures of the three interior angles of a triangle are in the ratio 2:3:4. What is the measure of the smallest interior angle of a triangle?

- A. 60° B. 30° C. 40° D. 80°

25. Given that for a triangle the two interior angles $(2x + 15)^\circ$ and $(5x - 45)^\circ$ are remote to an exterior angle $(3x + 10)^\circ$, then what is the value of x?

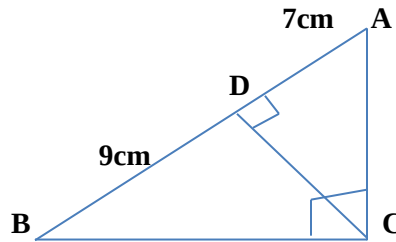
- A. 5 B. 20 C. 15 D. 10**

26. What is the length of the hypotenuse of a right angle triangle with leg lengths are 3cm and 4cm?

- A. 6cm B. 5cm C. 8cm D. 7cm**

27. $\triangle ABC$ is a right angled triangle in which $\overline{CD} \perp \overline{AB}$ IF $AD=7\text{cm}$ and $BD=9\text{cm}$, then what is the length of $\overline{BC}$?

- A. 12cm
- B. $2\sqrt{7}\text{cm}$
- C. $4\sqrt{7}\text{cm}$
- D. 8cm



28. Which one of the following statement is FALSE?

- A. Sector is a region bounded by two radii and the intercepted arc.
- B. Minor arc is the part of a circle which is less than a semi-circle.
- C. A segment of a circle is the region bounded by a chord and the arc of the circle.
- D. Major arc is the part of a circle which is equal to a semi-circle.

29. Which one of the following statement is TRUE?

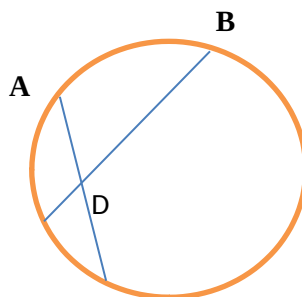
- A. A secant of a circle contains chord of the circle.
- B. A tangent to a circle contains an interior point of the circle.
- C. A tangent of a circle can pass through the center of the circle.
- D. A secant of a circle always contains diameter of the circle.

30. If the measure of the central angle is 80° , then what is the measure of the inscribed angle subtended by the same arc?

- A. 160°
- B. 40°
- C. 80°
- D. 240°

31. In figure below, $\overline{AE} \cap \overline{BC}$ intersect at D inside the circle ($\angle ADB = 50^\circ$ and measure of arc AB is 70°), then what is measure of arc EC?

- A. 20°
- B. 40°



C. 30°

D. 10°

C

E

32. Which of the following statement is NOT TRUE?

A. A triangular prism has triangular lateral faces.

B. The planes of bases of a prism are parallel to each other.

C. A prism is named on the name of its base

D. The bases of prism are congruent polygons.

33. How many edges are a rectangular prism has? A. 8 B. 4 C. 10 D. 12

34. The volume of a right circular cylinder is 308cm^3 and the radius of the base is 7cm. what is the length of the height? (Use $\pi = \frac{22}{7}$)

A. 8cm B. 4cm C. 6cm D. 2cm

35. What is the lateral surface area of the prism, if the perimeter of the base 200cm and its height 10 cm. A. 200cm^2 B. 2000cm^2 C. 400cm^2 D. 4000cm^2

36. Kebede built a wooden, cubic toy box for his son. Each side of the box measures 7cm. how many cubic centimeters of toys will the box hold?

A. 49cm^3 B. 240cm^3 C. 225cm^3 D. 343cm^3

37. Which one of the following is impossible event?

A. The day after Monday is Tuesday. C. In rolling of die, 8 can appear.

B. The sun rises in the east. D. A cat is to chase a mouse.

38. A pair of fair dice thrown. What is the probability that the sum of the scores on the upper face is 4? A. $\frac{1}{4}$ B. $\frac{1}{6}$ C. $\frac{1}{9}$ D. $\frac{1}{12}$

39. A card is drawn from a pack of 52 cards. What is the probability of getting a red card?

A. $\frac{1}{13}$ B. $\frac{1}{2}$ C. $\frac{1}{4}$ D. $\frac{1}{26}$

40. The factory produces 500 pens per day and produces 3% defective. A pen is chosen at random at the end of the day and found non-defective. What is the probability that produce non-defective pen? A. 0.3 B. 0.03 C. 0.97 D. 0.097

