ADDIS ABABA CITY ADMINISTRATION EDUCATION BUREAU
ADDIS ABEBA
GRADE 8 MATHEMATICS MODEL EXAMINATIONS
2015E.C/ 2023G.C

NUMBER OF QUESTIONS: 40 **TIME ALLOWED: - 1 HOURS**

GENERAL DIRECTIONS

THIS BOOKLET CONTAINS **EXAMINATION MATHEMATICS**.IN THIS EXAMINATION, THERE ARE A TOTAL OF **40 MULTIPLE 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 ANSWERS. YOUR ANSWER MARK SHOULD BE **HEAVY** AND **DARK**, COVERING THE ANSWER SPACE COMPLETELY. PLEASE ERASE ALL UNNECESSARY MARKS COMPLETELY FROM YOUR ANSWER SHEET.

YOU ARE ALLOWED TO WORK ON THE EXAM FOR **1 HOURS**. 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 UNTIL YOU ARE TOLD TO DO SO.

INSTRUCTION-I READ THE FOLLOWING QUESTIONS CAREFULLY AND CHOOSETHE CORRECT ALTERNATIVE ANSWER FOR THE FOLLOWING QUESTIONS

1. Which one of the following Venn diagram is CORRECT about the relationship between N, Q, W and Z?

   A. $N \subseteq W \subseteq Z \subseteq Q$ C. $W \subseteq N \subseteq Z \subseteq Q$

   B. $N \subseteq W \subseteq Q \subseteq Z$ D. $Q \subseteq W \subseteq Z \subseteq N$

2. What is the value of $|-12| + |13 - 14| - |-4|$?

   A. 5 B. 7 C. 9 D. 19

3. Which one of the following is TRUE?

   A. $3\frac{2}{5} < 3\frac{1}{6}$ C. $-3\frac{2}{5} > -2\frac{1}{6}$

   B. $3\frac{2}{5} > 2\frac{1}{6}$ D. $-3\frac{2}{5} > -3\frac{1}{6}$

4. Which one of the following numbers is written in descending order?

   A. 4.22,4.32,2.011,2.001 C. 4.32,4.22, 2.001,2.011

   B. 4.32,4.22,2.011,2.001 D. 4.32, 2.011,4.22,2.001

5. What is the result of the sum $3\frac{1}{2} + 3\frac{2}{3} + 4\frac{3}{4}$?

   A. $11\frac{10}{11}$ B. $12\frac{10}{11}$ C. $11\frac{11}{12}$ D. $11\frac{5}{6}$

6. What is the value of 3.61 – 4.73 ?

   A. 1.12 B. 2.11 C. -1.12 D. -2.11

7. W/ro Abebech divides 21.34 kg of sugar for her five neighbors, what will be their share?

   A. 4.268 kg each C. 3.342 kg each

   B. 2.648 kg each D. 3.243 kg each

8. If Ato Abebe invested birr 10,000.00 with simple interest rate of 20%, how long will it take hismoney to be tripled?

   A. 30 years B. 20 years C. 10 years D. 5 years

9. Which one of the following is the exact value of $(0.0005)^2$?

   A. 0.0025 B. 0.000025 C. 0.00000025 D. 0.0000000025

10. Which one of the following is NOT TRUE?

A. $100 < (12.2)^2 < 121$

B. $9 < (4.5)^2 < 25$

C. $121 < (11.5)^2 < 144$

D. $25 < (5.2)^2 < 36$

11. Which one of the following is NOT a perfect cube?

A. 1,728 B. 1,331 C. 1,000 D. 728

12. What is the length of the side of cube whose volume is 1000 cm^3?

A. 1000 cm B. 100cm C. 10cm D. 1cm

13. If the side of a cube is doubled, by what times is the volume of the cube increases?

A. 4 B. 6 D. 7 D. 8

14. Which pair of coordinates and quadrants is paired INCORRECTLY?

A. (1,2) , quadrant I

B. (-2,-4) , quadrant III

C. (0,0) , quadrant II

D. (4,-6) , quadrant IV

15. Which pair of coordinates determined a horizontal line?

A. (0,0) & (4,4) B. (0,6) & (0,-7) C. (2,4) & (-3,4) D. (2,1) & (1,2)

16. What is the solution of $2x + 3(2x + 5) < -2x$ in the domain of N?

A. { } B. x/x> 12 C. x/x < 12 D. x/ x < -1.5

17. Which one of the following pair of inequalities are equivalent?

A. $2x + 4 < 0$ & $x < -4$

B. $3(4x - 3) < 2$ & $x < 1$

C. $3x - 2(x-3) < 12$ & $x < 6$

D. $2x + 14 < 12$ & $x < 1$

18. Abel is 20 years older than Kelemwa, in 10 years' time Abel will be double the age of Kelemwa. How old is Kelemwa today?

A. 10 years B. 15 years C. 20 years D. 25 years

19. Which one of the following is NOT correct?

A. Every two equilateral triangles are similar. C. Evert two squares are similar.

B. Every two circles are similar. D. Every two rectangles are similar.

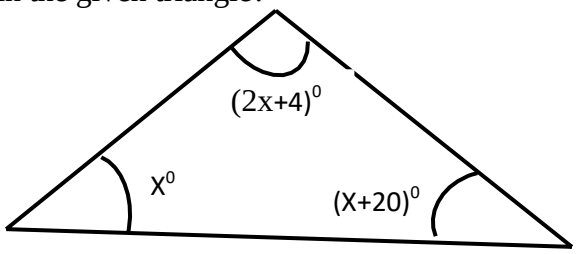
20. The sides of a triangle measures 12cm, 15cm and 16cm. If the smallest side of a similar triangle is 18 cm, what is the measure of the longest side?

A. 22.5cm B. 24cm C. 25.5cm D. 26 cm

21. The area of two similar triangles is $24cm^2$ and $216cm^2$ respectively. What is the perimeter of the larger triangle if the perimeter of the smaller triangle is 20cm?

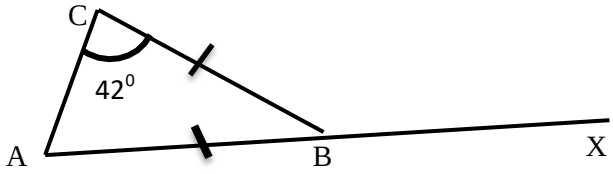
A. 60 cm B. 40cm C. 30cm D. 20cm

22. What is the value of x in the given triangle?



A. 80^0 B. 70^0 C. 60^0 D. 30^0

23. Suppose ABC is an isosceles triangle where AB=BC, m(<ACB)= 42^0 and ABX is straight line, then what is the value of M(< CBX)?



A. 84^0 B. 42^0 C. 96^0 D. 180^0

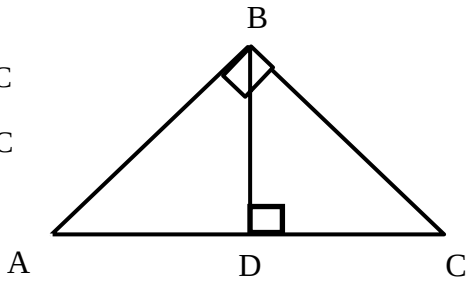
24. Suppose ΔABC and ΔBDC are right angled triangles at B and D respectively as shown in the figure below, which one of the following is NOT TRUE?

A. $(AB)^2 = AD \cdot AC$

B. $(CB)^2 = AC \cdot DC$

C. $(DB)^2 = AD \cdot DC$

D. $(AC)^2 = BD \cdot DC$



25. What is the length of the altitude of an equilateral triangle whose side is 8cm long?

A. $4\sqrt{3}$ cm B. 6cm C. $8\sqrt{3}$ cm D. 8cm

26. Which triple numbers can be the sides of a right angle triangle?

A. 8, 8,10 B. 15,20,30 C. 18,24,30 D. 21,24,35

27. The longest chord on the circle is called_____.

A. radius B. diameter C. Secant D. tangent

28. Which one of the following is NOT TRUE?

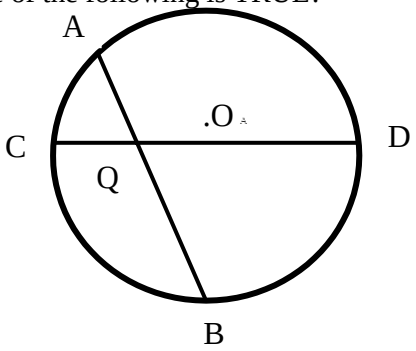
A. The measure of an inscribed angle is half the measure of the arc which subtended it.

B. The perpendicular bisector of a chord passes through the center of the circle.

C. An inscribed angle subtended by a semi-circle is a right angle.

D. An angle subtended by a minor arc is an obtuse angle.

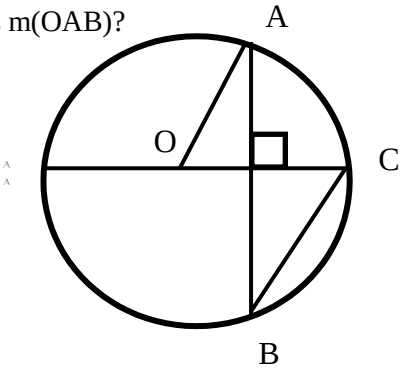
29. Suppose $\overline{\overline{AB}}$ and $\overline{\overline{CD}}$ are intersecting chords inside of circle O at Q as shown in the figure below, which one of the following is TRUE?



A. $m(\hat{AD}) = m(\hat{CB})$ C. $m(\hat{AC}) = m(\hat{DB})$

B. $m(<CAB) = m(<BDC)$ D. $m(<CQB) = m(<BQD)$

30. In the figure below O is the center of the circle and AB is perpendicular to OC, if $m(<ABC) = 32^0$, then what is m(OAB)?



A. 26^0 B. 32^0 C. 42^0 D. 64^0

31. What is the number of edges of a hexagonal prism?

A. 18 B. 12 C. 8 D. 6

32. What is the length of the side of a cube whose total surface area is $216cm^2$?

A. 26cm B. 18cm C. 12cm D. 6cm

33. If the radius and the height of a circular cylinder is $6/\pi$ cm, and 12cm respectively, then what is the lateral surface area?

A. $72cm^2$ B. $84cm^2$ C. $122cm^2$ D. $144cm^2$

34. The box is in the form of a rectangular prism whose side is 4m, 5m and 11m. What is the volume of the box?

A. $20m^3$ B. $220m^3$ C. $99m^3$ D. $109m^3$

35. What is the volume of a cylinder if its radius of the base is 3cm and the height is 14 cm?

(use $\pi = {}^{22}/_{7}$)

A. $412cm^3$ B. $396cm^3$ C.1 $42cm^3$ D. $72cm^3$

36. Abebe needs to paint the walls of his room whose floor is 6m by 4m and height 2.5m. His room has 2 windows $1m^2$ each and a door 1.5m by 2m. How much gallon of ink he need if one gallon can paint $3m^2$?

A. 15 gallon B. 32 gallon C. 48 gallon D. 50 gallon

37. The probability of an event denoted by P(E) necessarily lies between_____.

A. 1 and 2 B. 0 and 1 C. -1 and 1 D. -2 and 2

38. What is the probability of getting an even number if a faire dice is thrown once?

A. $\frac{1}{6}$ B. $\frac{2}{3}$ C. $\frac{1}{2}$ D. $\frac{1}{3}$

39. If a fair dice is tossed and a coin is thrown at once, what is the probability of getting an even number and a head?

A. $\frac{5}{12}$ B. $\frac{7}{12}$ C. $\frac{1}{2}$ D. $\frac{1}{4}$

40. In a hospital 6% of the operation failed per year, If 1200 patients were operated in a year how many of them survived?

A. 72 B. 120 C. 1120 D. 1128