YEKA SUB CITY ADMINSTRATION OF EDUCATION BUREAU

ADDIS ABEBA

GRADE 8 MATHEMATICS MODEL EXAMINATIONS

2015E.C/ 2023G.C

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

GENERAL DIRECTIONS

THIS BOOKLET HAS EXAMINATION OF 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 **HEAV**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 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 REOUIRED

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.

1. Which one of the following is **correct**?

A. $-0.67 \notin Z^-$ B. $0.2 \notin Z^+$ C. $-\frac{5}{2} \notin Q^+$ D. $0.67 \notin Q$

2. The solution set of an equation $-6|4-3x|-4=-10$ is

A. No solution B. $\{1, \frac{5}{3}\}$ C. $\{1, -\frac{5}{3}\}$ D. $\{-1, -\frac{5}{3}\}$

3. Which of the following statement is **not correct**?

A. $\left|-\frac{7}{2}\right| < \frac{7}{2}$ B. $\left|-\frac{5}{3}\right| > \frac{4}{3}$ C. $\frac{2}{3} < \left|-\frac{3}{4}\right|$ D. $\frac{0}{10} > -3\frac{1}{4}$

4. Which group of numbers is ascending order?

A. $-0.7, -\frac{3}{4}, -1, -\frac{1}{2},$ C. $-1, -\frac{3}{4}, -0.7, -\frac{1}{2}$

B. $-\frac{1}{2}, -1, -0.7, -\frac{3}{4}$ D. $-\frac{1}{2}, -0.7, -\frac{3}{4}, -1$

5. The simplified form of $\frac{2}{3}(\frac{1}{2}-\frac{1}{3})+\frac{5}{2}\left(\frac{2}{5}+\frac{1}{5}\right)$ is equal to:

A. $\frac{29}{18}$ B. $\frac{14}{9}$ C. $\frac{5}{6}$ D. $\frac{5}{9}$

6. A number is subtracted from 11 and the result is multiplied by 5 gives -45. What is a number?

A. 20 B. 30 C. 10 D. 40

7. What is the simplest form of $\frac{x(xy-7)}{10}$, if x = 6 and y =2

A. 4 B. 3 C. 2 D. 1

8. If birr 80 is earned on birr 1600 in six month, at what the rate of simple interest has the interest been earned?

A. 2 % B. 15% C. 20 % D. 10%

9. Which of the following statement is **not true**?

A. if $\sqrt{x} = 0.9$ then x = 0.81 C. if x = 1.2 then $x^2 = 1.44$

B. if x = 0.25 then $\sqrt{x} = 0.5$ D. if x = 0.1 then $x^2 > 0.1$

10. Which square root lie between the numbers 12 and 13?

A. $\sqrt{144}$ B. $\sqrt{156}$ C. $\sqrt{139}$ D. $\sqrt{170}$

11. Which of the following is **not** a perfect cube?

A. 216 B. 343 C. 125 D. 108

12. The cube of an odd number is always ----------

A. even number C. prime number

B. odd number D. even or odd number

13. If the volume of a cube is $125cm^3$ then what would be the length of its side?

A. 25cm B. 4cm C. 5cm D.15cm

14. Which one of the following is **true** statement?

A. the graph of the equation x = a, a∈Q and $a \neq 0$ is vertical line.

B. the graph of the line y = -x passes through the I and II quadrant.

C. the equation of the line y =4x+2 that pass through the origin of coordinates.

D. the graph of the equation y= b, b∈Q and $b \neq 0$ that pass through the origin of coordinate.

15. What is the equation of the line that passes through the origin and the point (-2, 6)?

A. y = -2x +6 B. y = 3x C. y = -3x D. $y = \frac{1}{3}x$

16. The solution set of the inequality $8(x + 2) \leq 12x - (3x - 18)$ is?

A. $\{x: x \leq 2\}$ B. $\{x: x \geq -2\}$ C. $\{x: x \leq -34\}$ D. $\{x: x \geq -34\}$

17. The sum of the present ages of Ato Moges and his daughter is 50 years. In 5 years' time Ato Moges will be 3 times as old as his daughter. How old is his daughter?

A. 10 years B. 12 years C. 8 years D. 5 years

18. Which inequality is equivalent to $4 - 3x > \frac{1}{2}(2 - 8x)$?

A. $4(\frac{1}{2}x - 1) > \frac{1}{2}$ C. $6(2x - 3) < 2(6x - 9)$

B. $-4 - 6x < 2 - 4x$ D. $7(x + 8) - x > 0$

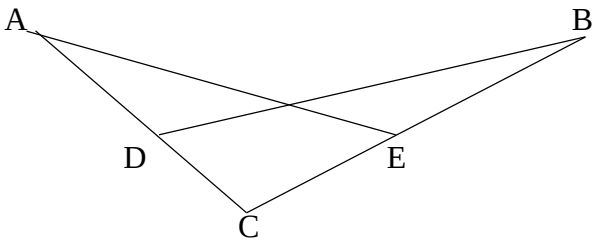
19. Given that: AC = BC and m($< A$) = m($< B$).Then $\Delta ACE \cong \Delta BCD$, by

A. SSS

B. SAS

C. AA

D. All of the above



20. Which one of the following is necessary true?

A. Any rhombuses are similar

B. If two triangles are similar, then they are congruent.

C. All similar polygons are congruent.

D. Any two squares are similar.

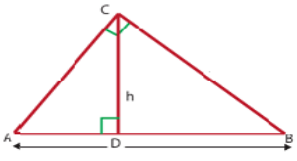
21. The areas of two similar polygons are $160cm^2$ and $10cm^2$. If a side of the smaller polygon is 4cm, find the corresponding side of the larger polygon?

A. 8cm B. 24cm C. 16cm D. 12cm

22. The exterior angle of a triangle is120°and the two remote interior angles are $(4x+40)°$ and 60°. Find the value of x

A. 2 B. 5 C. 12 D. 10

23. In the figure below, the hypotenuse of a right angled triangle ΔABC is 18cm and $\overline{CB}$ = 8cm.Find the altitude of a triangle?



A. $5\sqrt{6}$ B. $3\sqrt{2}$ C. $\sqrt{15}$ D . $4\sqrt{3}$

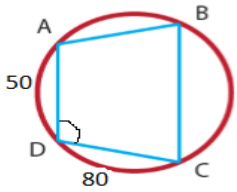
24. In a right angled triangle, the measure of one acute angle of a triangle is 6 more than two times the measure of the other acute angle. Find the measure of the larger acute angle?

A. 62^0 B. 25^0 C. 84^0 D.90^0

25. A tree 32 meter-high is broken off 7 meter from the ground. How far from the foot of the tree will the top strike the ground?

A. 6m B. 14m C. 24m D. 45m

26. If the measure of arc AD=50^0 and the measure of arc DC= 80^0 as shown in the figure, then find the measure of <ADC?



A. 115^0 B. 130^0 C. 80^0 D.230^0

27. Which of the following statement is **False**?

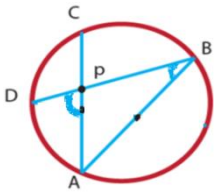
A. A secant of a circle contains chord of the circle.

B. An arc of a circle is a part of the circumference of a circle.

C.A sector of a circle is the part of a circle bounded by two chords and their intercepted arc

D. The largest chord is the diameter of a circle.

28. In the figure below, <ABD=35^0 and arc CB = 80^0, what is the measure of <DPA?



A.75^0 B. 30^0 C. 180^0 D.25^0

29. In a circle, radius OA = $(3x-10)$ cm and radius OB = $(x + 2)$ cm. Find the length of a diameter of a circle. A. 14cm B. 6cm C. 12cm D. 45cm

30. Which of the following statement is **FALSE**?

A. A cone has one vertex and one curved edge.

B. A triangular pyramid has a parallelogram lateral face.

C. The intersections of the faces of a prism are the edges of the prism

D. The upper and the lower bases of right circular cylinder are circles of equal radii.

31. The sum of the height and radius of a right circular cylinder is 10cm. If the total surface area is $40\pi cm^2$, then what is the radius of the cylinder?

A. 3cm B. 7cm C. 10cm D. 4cm

32. Which of the following statement is **TRUE**?

A. A cube has 6 faces, 12edges and 8 vertices.

B. The total surface area of a rectangular prism can be calculated by adding the areas of 6 faces.

C.A triangle is a possible base of a prism.

D.A pyramid can have a circular base

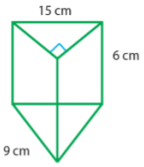
33. The dimensions of a box are 3cm by 9cm by 4cm. A small cubical box measures 3cm long each side. How many of these small boxes fit into the bigger box?

A. 12 B. 15 C. 16 D. 25

34. The bases of a prism are right triangles whose edges measure 6cm, 8cm and 10cm. The lateral sides of the prism are perpendicular to the bases and the height of the prism is 5cm. find the lateral surface area?

A. $150cm^2$ B. $120cm^2$ C. $105cm^2$ D. $360cm^2$

35. In the figure below, what is the volume of a triangular prism?



A. $108cm^3$ B. $355cm^3$ C. $100cm^3$ D. $224cm^3$

36. The areas of the bases of a cylinder are each $16\pi cm^2$ and the volume of the cylinder is $80\pi cm^3$. Find the height of the cylinder?

A. 5cm B. 4cm C. 12cm D. 8cm

37. Which of the following statement is FALSE?

A) The probability of an event that is sure to occur is 1

B) If three coins are thrown at a time, then n(S) = 8

C) If the set of all possible outcomes is an event, the probability of an event is 1.

D) The probability of even chance is between 0.5 and 1.

38. A letter is chosen at random from the word" STATISTICS". Find the probability that it will be the letter T or I ?

A. $\frac{3}{2}$ B. $\frac{1}{2}$ C. $\frac{5}{15}$ D. $\frac{1}{9}$

39. An integer is chosen at random out of the integers 1 to 30. What is the probability that it is a prime number?

A. $\frac{1}{3}$ B. $\frac{7}{2}$ C. $\frac{8}{5}$ D. 1

40. At a car park there are 80 vehicles, 16 of which are cars, 32 are vans and the remaining Lorries. If every vehicle is equally likely to leave, find the probability of a lorry leaving first?

A. $\frac{2}{9}$ B. $\frac{13}{32}$ C. $\frac{4}{15}$ D. $\frac{2}{5}$