YEKA SUB CITY ADMINISTRATION OF EDUCATION BUREAU

GRADE EIGHT MATHEMATICS MODEL 2 **EXAMINATION**

AUGUST 2012E.C/ 2020 G.C

Number of Items: 40 **Time Allowed: 1 Hour**

1. Which of the following statement is TRUE about the set of numbers denoted by N,W,Z and Q

A. $Z \subseteq W$ C. $W \subseteq Q^+$

B. $Z \subseteq Q^+$ D.$N \subseteq Z^+$

2. (-0.2) (-0.5) − (0.6) (-0.4) is equal to

A. 0.34 C.-0.24

B. 0.024 D.-0.14

3. Which of the following terms are binomial?

A. 2a(3cd) C.(a+b) (a+b)

B. (a+b) (a-b) D. (a-b) (a-b)

4. The HCF of the number Y and 45 is 5 If their LCM is 180, what is the value of Y?

A.18 C.20

B.36 D.12

5. When $(\frac{3}{5}+\frac{3}{2}) \div (\frac{8}{3}+\frac{1}{3})$ is computed, it is equal to

A. $\frac{3}{8}$ C. $\frac{35}{2}$

B. $\frac{7}{10}$ D.-3

6. Which one of the following equations is not equivalent to the equation

12-2(6x+4) =-8

A. 4X=3 C. 3X=4

B. -6X=-8 D.12X=16

7. The sum of the ages of a mother and her son is 63, six years ago the mothers age was twice as old as her son. How old is the mother now?

A.34 C.48

B.55 D.40

8. What is the solution set of the inequality -6x-4(x+5) <-8x-24, where $x\varepsilon Q^+$?

A. $\{x\varepsilon Q^+; X<2\}$ C. $\{x\varepsilon Q^+; X>2\}$

B. $\{x\varepsilon Q^+; X>5\}$ D. { }

9. Which of the following statement is FALSE?

A. $|3\frac{1}{2}| = |\frac{7}{2}|$ C. |-2 | < | 2 |

B. $|-\frac{5}{2}| = |2\frac{1}{2}|$ D. |0.2 | > |0.198|

10. A box contains 50 blue, red and green balls, if 20%are blue and 50% are green, what are the number of red balls?

A.18 C.40

B.15 D.8

11. Six times a number is decreased by 20 which is equal to three times the number increased by 4. what is the number?

A. 8 C.12

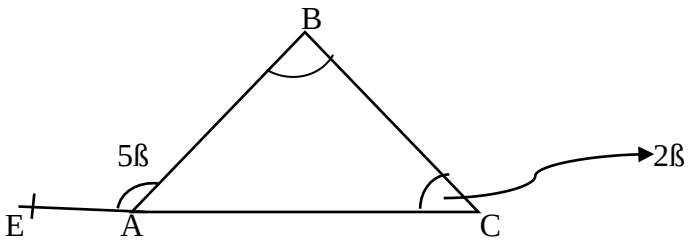
B. -6 D.36

12. The simplified form of $(2\sqrt{3})(2\sqrt{12})^2$

A.$96\sqrt{3}$ C.144

B. $12\sqrt{36}$ D. $48\sqrt{3}$

13. In the figure below ABC is a triangle with an extension of E on AC. if the m(<ABC) = 72^0, and m< (BCA) = 2ß then what is m(<BAE)?



A.144^0 C. 48^0

B. 24^0 D. 120^0

14. Helen's salary last year was 5,000 Birr. This year she got 50% increment, what is her salary at present?

A.5,500 Birr C.7,500 Birr

B. 1,000 Birr D.10,000 Birr

15. Which of the following is NOT a way of collecting data?

A. Carrying an experiment C. Using questionnaire

B. Constructing a frequency table D. From data base or records

16. A student has an average score of 86 on five exams, If the student scored 88,72,96 and 98 on the first four exams, what was the students score on the fifth exam?

A.78 C.92

B.88 D.76

17. When $\sqrt{108} - \sqrt{75}$ is simplified it is equal to

A. $3\sqrt{3}$ C. $\sqrt{3}$

B. $\sqrt{5}$ D. $2\sqrt{5}$

18. A merchant bought an article for 4000 Birr and sold it for 4200 Birr, what is his profit percent

A.20% C.0.2%

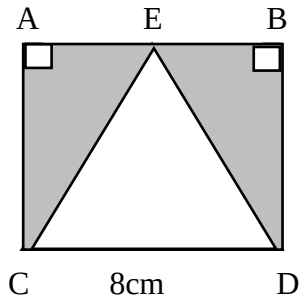
B.5% D.25%

19. What is the median of the data 22,12,23,5,37 and 6?

A.17 C.22

B.17.5 D.12

20. In the figure below ABCD is a square of side length 8cm.If E is the midpoint of on side AB, what is the area of shaded region?



A.16cm^2 C.64cm^2

B.48cm^2 D.32cm^2

21. If $\sqrt{8}$ =2.83 then what is $\sqrt{0.08}$?

A.0.283 C. 0.0283

B.28.3 D.283

22. What is the HCF of the expression $15a^2 b^3 -12a^3bc+18a^2 b^4$?

A. $6a^2 b$ C. $3a^2 b$

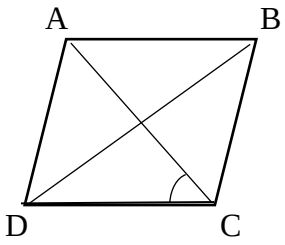
B. $2a^2 c$ D. $4ab^2c$

23. If the sum of the measure of all interior angles of a polygon is 1620^0, then how many sides does the polygon have?

A.11 C.9

B.12 D.8

24. In the figure below ABCD is a Rhombus and m<(BCD) = 80^0, what is the measure of <ACD?



A. 20^0

B. 40^0

C. 160^0

D. 80^0

25. If x=-2 and y=4 then what is the value of 4x(-2y-x) +3(5y-3x)?

A. 412

B. -58

C. 126

D. -240

26. Which of the following is **true** about the line whose equation is -2x-3y=6?

A. The y-intercept is -2

B. The x-intercept is -3

C. The slope is $-\frac{2}{3}$

D. All are correct

27. What is the solution set of the equation $\frac{3x-2}{4} + \frac{2x+5}{3} = \frac{5}{4}$

A. -14

B. $\frac{1}{17}$

C. $-\frac{15}{4}$

D. $-\frac{4}{13}$

28. In Cartesian coordinate plane if x>0 and y<0, then in which quadrant does the point (x, y) lie?

A. First quadrant

B. Second quadrant

C. Third quadrant

D. Fourth quadrant

29. The perimeter of a rectangle field is 148m and its width is 20m less than its length, what is the length of the field?

A. 47m

B. 27m

C. 56m

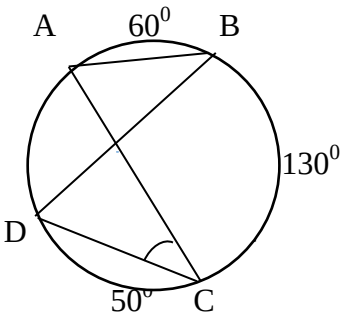
D. 67m

30. The ratio of the sides of two similar polygons is 3:5, If the area of the larger polygon is $100cm^2$, then what is the area the smaller?

A.18 cm^2 C.36 cm^2

B.46 cm^2 D.54cm^2

31.In the figure below, $\overset{\frown}{AB}=60^0$, $m\overset{\frown}{BC}=130^0$ and $m\overset{\frown}{CD} = 50^0$, what is the measure of <ACD?



A.60^0 C.120^0

B.45^0 D.68^0

32. Which of the following statement is TRUE about secant and tangent lines of a circle?

A. A secant of a circle always contains diameter

B. A tangent to a circle can pass through the center of a circle

C. Tangent to a circle contains an interior point of the circle

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

33. Which of the following statement is NOT true about a Square?

A. Opposite sides are parallel. C. The diagonals are not congruent.

B. Opposite angles are supplementary. D. All sides are equal or congruent.

34. What is the equation of the line that pass through two points P (-2,5) and Q (2,9)?

A. y-x = 7 C. x+y = 2

B. 2x-y = 5 D. $\frac{1}{2}$ y+x = 6

35. In ΔPQR, PQ =10cm and QR=15cm, which one of the following can NOT be the length of side PR?

A. 10cm C. 6cm

B. 25cm D. 15cm

36.Which family of plane figures given below are NOT always similar?

A. Isosceles triangles C. Circles

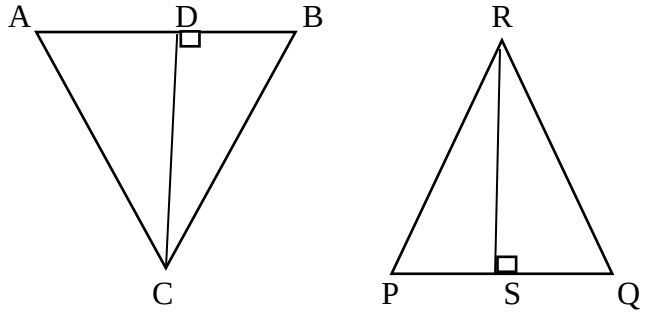
B. Equilateral triangles D. Squares

37. 12% of Birr x is 840, what is the value of x?

A. 540 C. 3400

B.7000 D. 84000

38.In the figure given below ΔABC~ΔPQR, CD is an altitude of ΔABC and RS is an altitude of ΔPQR, then which of the following proportions is FALSE?



A. $\frac{AC}{PR} = \frac{DC}{SR}$ C. $\frac{AC}{PR} = \frac{AB}{PQ}$

B. $\frac{BD}{QS} = \frac{BC}{RQ}$ D. $\frac{DC}{SR} = \frac{BD}{QR}$

39.Which of the following probability can best describes an unlikely event?

A. 0 C. $0 < p(E) < 0.5$

B. 1 D. $\frac{1}{2} < p(E) < 1$

40.The volume of a right cylinder is $64\pi cm^3$.If the height is 4cm ,how long is its radius?

A.3cm C.16cm

B.4cm D.8cm