456/1
Mathematics
Paper 1
2 ½ Hours

STANDARD HIGH SCHOOL - ZZANA

END OF TERM ONE EXAMINATIONS, 2020
S.2 MATHEMATICS
PAPER 1
TIME: 2hours 30Minutes

INSTRUCTIONS

- Attempt **ALL** questions in section **A** and **B**.
- Forward scanned answer sheets to stahiza2020@gmail.com.

SECTION A

1. Express $0.9\dot{6}$ in the form $\frac{p}{q}$ where P and q are integes such that q ≠ 0. Hence find (p+q).
2. Given that a ∆ b = $a^2 + b^2$. Find the value of y if y∆ $2\sqrt{10}$ = 7 ∆4
3. Sets P and Q are such that n (P) = 14, n(Q) = 11, n(QnP^1) = 6 and n(P^{1}n Q^1) = 2. Show the information on a Venn diagram and hence state n(ϵ)where ϵ is the universal set.
4. Simplify: $\frac{1}{2} of \ \frac{3}{5} \div \frac{1}{4} + \frac{7}{10} \times \frac{2}{7} - \left(2\frac{1}{2} \times \frac{1}{5}\right)$
5. Solve for X in the inequality $\left(\frac{x+1}{2}\right) - \left(\frac{x-3}{4}\right) < \left(\frac{x+2}{3}\right)$
6. The area of sector of a circle whose angle is 50^0 is 112cm^2. Find the radius of the circle.
7. Find the equation of the line passing through points A(4,3) and B(10,-9).
8. The area of a rhombus is 240cm^2. If the length of one of the diagonals is 16cm. Find the length of the rhombus.
9. Find n if $100001_{two} = 45_n$
10. Two bells ring at an interval of 30minutes and 26minutes. If they start ringing together at 12:20pm, when will they ring together again?

SECTION B

11.(a) Evaluate $\dfrac{9\frac{1}{2} - 3\frac{1}{3} \div \frac{5}{9}}{\frac{3}{5} of 6\frac{1}{4} + 1\frac{1}{2}}$

(b) Solve the equation: $\frac{2x}{3} - \frac{x-3}{2} = \frac{4x-1}{6}$

(c) Eva spends one – third of her salary on food, one – quarter on rent, three - fifth of the remainder on transport and saves the rest. If she spends shs 180,000 on transport, find how much money she saves.

12.(a) Using a ruler and compasses only, construct triangle ABC which AB = 8cm, BC = 4cm and angle ABC = 45^0.

(b) Measure AC and angle ACB.

(c) From A, drop a perpendicular to meet BC produced at D.

(d) Measure the length AD and hence, calculate the area of the triangle ABD.

13.IF F = $\{All\ factors\ of\ 12\}$ and $p\ \{all\ prime\ numbers\ less\ than\ 20\}$

(a) Find the members of FnP

(b) Hence find n (FnP)

14. A survey was carried out in a shop to find out how many customers bought bread or milk or both or neither, out of a total of 79 customers for the day, 52 bought milk, 32 bought bread and 15 bought neither. Draw a venn diagram to show this information and use it to find out

(a) How many bought breed and milk.

(b) How many bought milk only.

END