

NAME: ..... ADM NO: ..... CLASS:  
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**FORM ONE MATHEMATICS END YEAR EXAM – 2019**

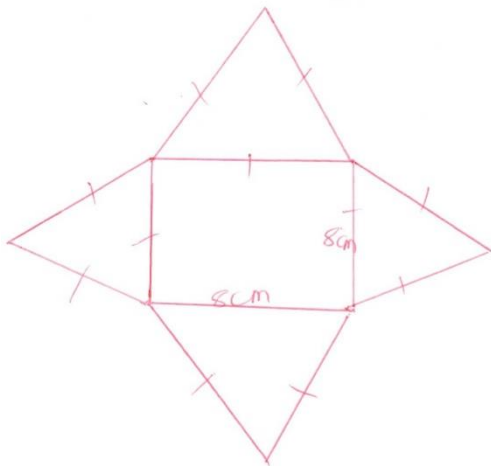
**TIME: 2 HOURS**

**SECTION I:**

**Answer all the questions from this section.**

1. Use a ruler and a pair of compasses only to construct triangle ABC in which AB = 6cm, BC = 8cm and  $\angle ABC = 60^\circ$ . (2 mks)

2. The diagram below shows the net of a solid.



- Sketch the solid. (2 mks)

3. Solve for x in the equation: (3 mks)

$$\frac{x-2}{5} - \frac{2x-1}{6} = \frac{1-x}{3}$$

4. Without using a calculator, evaluate;

$$\frac{\frac{5}{8} - \frac{1}{3} \text{ of } \frac{27}{20} \div 2}{1 + (5\frac{2}{5} \div \frac{9}{25})}$$

leaving your answer as a mixed fraction.

(3

mks)

5. Two alloys Y and Z are each made up of zinc, tin and copper. In alloy Y, the ratio of zinc to tin is

2:5 and the ratio of copper to tin is 4:3. Determine the ratio of Copper:Zinc:Tin in alloy Y.(2 mks)

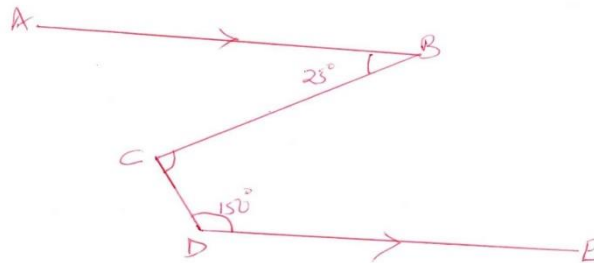
6. In an n-sided polygon, two angles are right angles and each of the remaining angles is  $150^\circ$ . Find the

value of n.

(3

mks)

7. Given that AB is parallel to DE, calculate  $\angle BCD$ . (3 mks)



8. The marked price of a car in a dealers shop was 450,000. Wekesa bought the car at 7% discount.  
The dealer still made a profit of 13%. Calculate the amount of money the dealer had paid for the car. (3 mks)

9. Food aid 369 880 French Franc was donated to the Turkana drought stricken area. The food was purchased from United states of America (USA) and paid for in US dollars. Calculate the exact value of the food and in dollar if: (1 French Franc = Ksh 12.80 and 1 US dollars = Ksh 84.50) (3mks)

10. During a certain ceremony, goats and chicken were slaughtered. The number of heads (for both chicken and goats) was 45. The total number of legs was 100. Determine the exact number of goats and chicken slaughtered.  
(3 mks)

11. Using tables, find the square roots of each of the following numbers. (3 mks)  
(a) 0.001952

(b) 952.695

(c) 40

12. Simplify the following expression

(3

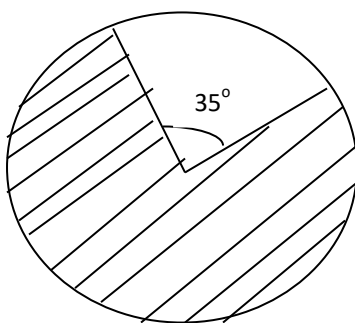
mks)

$$\frac{ax-ay+bx-by}{a+b}$$

13. Calculate the area of the shaded region given that the radius is 27cm

(4

mks)



14. Use divisibility test method to test whether the following numbers are divisible by 11.(3

mks)

(a) 2596

(b) 8151

(c) 4132

**SECTION B:**

**Answer all the questions.**

15. A surveyor recorded the measurements of a field book using  $XY=360\text{m}$  as the base line as shown below.

	Y	
To E 200	320	
	210	150 To D
To F 250	170	150 To C
	50	225 To B
	X	100 To A

a) Use a scale of 1cm to represent 50m to draw the map of the field.  
(5mks)

b) Find the area of the field in hectares  
(5mks)

16. Solve the following simultaneous equations using graphical method. (10 mks)

$$\begin{aligned}2x + y &= 7 \\2y + 3x &= 12\end{aligned}$$

17. Chemilil Sugar Academy hall has 200 seats. During the District Drama Festival, tickets were sold at sh 150 for adult and sh 75 for students

(a) On day one of the festival, 80% of the seats in the hall were occupied and twenty of the seats were occupied by students. Calculate the total money collected from the sale of tickets this day.(3 mks)

(b) On the last day of the festival X students occupied the seats and all seats were occupied. The money collected from the tickets sales was sh 25,350.

(i) Write down an equation of X. (2 mks)

(ii) Calculate the value of X. (2 mks)

(c) The money collected from the sale of tickets during the festival was divided among cost of hosting, allowances for adjudicators and electricity bill in the ratio 7:3:2. If the allowances amounted to 126,000, calculate the;

(i) Amount collected during the festival. (3 mks)

(ii) The cost of electricity bill during the festival. (1 mk)