

KAHUHO UHURU HIGH SCHOOL

FORM 1 MATHEMATICS : TERM 3 YEAR 2013

MID TERM EXAMINATION: TIME 1½ HOURS

ANSWER ALL THE QUESTIONS IN THE SPACES PROVIDED

1. Evaluate

$$\frac{-4 \text{ of } (-4 + -5 \div 15) + (3 - 2 \div 6)}{84 \div (-7) \div 3 - (-5)}$$

(3 marks)

2. Work out the following leaving your answer as a fraction in its simplest form

$$\frac{2\frac{1}{2} \div 3\frac{1}{3} \text{ of } \frac{21}{40} - 1\frac{1}{3}}{\frac{1}{12} - 2\frac{2}{3} \times 1\frac{1}{4}}$$

(3marks)

3. Simplify

$$10a - 8b - 4(4b + c)$$

(2 marks)

4. The area of a square board is  $104.3 \text{ cm}^2$ . Find its perimeter (3marks)

5. A carpenter had three pieces of timber of lengths 40 cm, 56cm and 64cm. He cut the timber into smaller pieces of equal length. Calculate:

a) The greatest possible length of each piece that the carpenter cut. (2mks)

b) The total number of pieces of timber obtained. (2mks)

6. Solve for x in the following equation

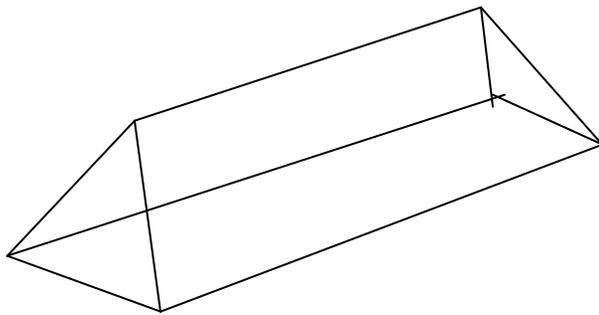
$$\frac{x-1}{3} - \frac{x-2}{4} = 0$$

(3mks)

7. A solid whose volume is  $64 \text{ cm}^3$  has a mass of 80g. Calculate its density in  $\text{kg/m}^3$ .

8 (a) Calculate the height of the triangle ABC in the figure below

(2mks)



(b) Hence find the volume of the prism. (2mks).

9 Solve the following simultaneous equations using the substitution method. (3mks)

$$5x - y = 7$$

$$3x + y = 9$$

10. It would take 15 men 8 days to dig a trench 240 metres long. Find how many days it would take 18 men to dig a trench 360 metres long working at the same rate. (2mks)

11. Given that

$$X = \frac{a^3 - b^2 + c^2}{ab}$$

and that

$a = -1$ ,  $b = 2$  and  $c = 3$  ; find  $x$

(3mks)

12. A tourist arrived in the country with US\$ 2000 which he changed into Kenya shillings. He spent Kshs 60000 on hotel accommodation and Kshs 45020 on travelling. 1US\$= Kshs86.85 buying rate of the bank.

(a) How much did he spend in US\$ (2mks)

(b) He changed the remaining money into sterling pounds at the rate of £1= Kshs 139.95. How much money in sterling pound did he get. (2mks)

13. Express 0.1333.... as a fraction in its simplest form. (3mks)

14. Three partners Auma, Barua and Chiku contributed Kshs 200 000, Kshs 300 000 and Kshs 500 000 respectively for a business enterprise. They realized a profit which they shared in the ratio of their contributions. If Auma and Chiku together Kshs 105000, calculate the total profit realized from the business. (3mks)

15. Kamau bought 2 pairs of trousers and 3 shirts and paid a total of shs 3100. Had he bought 4 such pairs of trousers and 3 such shirts, he could have paid shs 4700. Find the price of a pair of trousers and a shirt. (4 mks)

16. A blouse has a marked price of shs 500. The shopkeeper can allow a discount of 10% on the marked price and still make a profit of 20% on the cost price. Find the cost price of the blouse (3mks)