**MATHEMATICS, FORM 2**

**TERM I 2016, OPENER EXAM**

**NAME………………………………………………………..................ADM. NO………………**

**Instruction: Answer all questions in the space provided.**

1. Evaluate $\frac{-12 ÷3 ×4-(-15)}{-5 ×6 ÷2+(-5)}$ (3mks)
2. Work out the following giving your answer as a mixed number in its simplest from $\frac{\frac{2}{5} ÷ \frac{1}{2} of \frac{4}{9}- 1\_{10}^{1}}{\frac{1}{8}-\frac{1}{6} ×\frac{3}{8}}$ (3mks)
3. The marked price of a shirt is sh. 800. A customer buys the shirt after being given a discount of 13%. The seller then realizes that he made a profit of 20% on this sale. I find how much seller had brought the shirt ( 4mks)
4. A tank has two inlet taps P and Q and an outlet tap R. Tap P alone can fill the empty tank in $4\_{2}^{1}hours $ while tap Q in three hours. When the tank can be emptied by tap R in 2hours
5. The tank is initially empty. Find how long it would take to fill up the tank if:
6. Tap R is closed and taps P and Q are opened at the same (2mks)
7. All the taps are opened at the same time (2mks)
8. The tank is initially empty. Taps P and Q are opened for one hour then tap R openedfind:
9. The fraction of the tank that would be filled after one hour (3mks)
10. The time the tank will take to be fully filled up (3mks)
11. Solve the simultaneous equations $3x+4y=18$ (3mks)

$$5x+6y=28$$

1. Mr.Waweruneed to import a car from Japan where cost is USD 5,000 outside Kenya. He intends to buy the car through an agent who deals in Japanese yen. The agent will charge him 20% commission on the price of the car and further 80325 Japanese yen for shipment of the car. How many Kenyan shillings will he need to send to the agent to obtain the car given that (1USD = 105.00 yen and I USD = 63. 00 Ksh) (4mks)
2. Three similar pieces of timber of length 240cm, 320cm and 380cm are cut into equal pieces. Find the largest possible length of one square which can be mad from the three pieces. (3mks)