GATITU SECONDARY SCHOOL, P.O. BOX 327 – 01030, GATUNDU.
FORM I MATHEMATICS MID TERM EXAMINATION. TERM 2 2015.

1.   Evaluate each of the following

      a) $10^1/2 - 51/3 + 1/27$ (3mks

    b) $-2/3 - (+1/10) + (+1/7)$ (3mks

    c) $(5/7 \times 2/3) + (5/6 - 8/9) \div 7/15$ Of 5/6   (4mks

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2. **Write in symbols**

a) Forty million, six hundred thousand and six. (2mks

b) Five hundred and ninety million, seven hundred thousand, five hundred. (2mks

3. Five companies employed 2,340, 3455, 675, 960 and 1350 workers. The first two companies laid off one worker for every five while the other three recruited two new workers for every 3.

a) What was the total number of workers at the beginning? (3mks

b) How many people?

i) Lost jobs (2mks

ii) Got jobs (2mks

4. Three masses of sugar are grouped into 0.36 kg, 0.504 kg and 0.672 kg. Find the greatest mass of sugar that can be taken an exact number of times from the three masses. Give your answer in kg. (4mks

5. A number X is such that when it is divided by 27, 30 or 45, the remainder is 3. Find the smallest possible value of n. (4mks

6. Arrange, the following decimal fractions in ascending order.

I) 0.25 0.75, 2.05 (2mks

ii) 0.35, 0.25, 0.5, 0.05 (2mks

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7. Express each of the following as a fraction. (2mks

a) $0.\dot{7}$

b) $1.\dot{5}2\dot{3}$ (3mks

8. The distance between two ports is 215 nautical miles. What is the distance in km if 1 nautical mile is approximately equal to 1.85 km? (2mks

9. The area of a triangle whose height is equal to the length of its base is 40.5cm2. Calculate the length of the base. (4mks

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10. John is twice as old as his brother Kogo, and their sister Jane is 7 years younger than Kogo. Write down an expression for the sum of their ages. (3mks

11. Remove brackets and simplify (a) $(3 - y) - 2(X - Y + 2)$ (3mks

b) $\dfrac{4(x + 1) - 3(x - 1)}{6}$ (3mks

c) $-\frac{1}{2} xy (x - xy) - x (xy - x^2)$ (3mks

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12. Express as a single fraction in its lowest form $\dfrac{2a^2 + ab}{ab} \cdot \dfrac{3a^2 - ab}{6ab}$ (3mks

13. Use common factors to simplify $\dfrac{(x+1)\{a(x-1)+b(x-1)\}}{(1-x)(ax+bx-a-b)}$ (4mks

14. Fill the missing numbers   (i) $3/8 = \dfrac{\rule{1cm}{0.4pt}}{2} = -15/-40 = \dfrac{}{40}$ (2mks

ii) $13/4 = 5.2/1.6 = -0.65$ (1mk

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15.   Use square tables to evaluate   (i) $0.0225^2 \times 12800^2$ (2mks

ii) $6250^2 \div 0.1750^2$ (2mks

16.   Find the ratio a : c if
      $a : x = 3 : 1,$ $x : 2 =$ $4 : 1,$ $2 : c = 2 : 1$ (3mks

17.   Find the ratios X : y : Z   if $X = 4y$ and $2y = 3Z.$ (3mks

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18.   The price of an article was raised by 20% and a week later the new price was lowered by 20%. What was the new price if the original price was sh. 50?   (3mks

19.   Correct the measurements below to the degree of accuracy indicated in the brackets
i)   0.03475 (2 sf)   (2mks

ii)   341.0032   (2 s.f.)   (2mks

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iii)   0.3651   (2 s.f.)   (2mks

20(a)   Two rings of diameter 9cm and 12cm are cut and joined to make one large ring. Find the radius of this ring.   (3mks

b)   A bicycle wheel turns 15 times to cover a distance of 66m. Find the radius of the wheel. use $\pi = \dfrac{22}{7}$ (2mks

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