**LAMISS TERM TWO MATHEMATICS HOLIDAY PACKAGE**

*Prepared by Aston Samuel (0750609329/0783043969)*

1.The distance from Mbale to Kampala is 380km. A bus leaves lira at 7:30am and travels nonstop to Kampala at 60kmh’. at 8:50am, a pajero car leaves Kampala and travels towards lira at a steady speed of 120kmh’. On the same axes draw a distance time graph showing the journey of both vehicles, hence or otherwise determine when and at what distance from lira they met. (use a scale of 2cm to represent 50 km and 2cm to represent 1 hour.

2.If a=,b= and C=

b. Solve the equations below to find the column vector d and hence find its magnitude

a). d-c=a d). 3a+2d =c

b). d+b=c e). 3a+2d=4b

c). a-2d=4c f). 3b+2d=c

3. Using the knowledge of;

Image=translation +object as taught by the senior tr. Aston Samuel,

A rectangle with vertices A (1,1) B (1,3), C (3,3) and D(3,1) is mapped onto its images by a translation T= ,Find the coordinates of the images of the rectangle.(use both graphical and calculation method)

b). a translation T= maps point p onto p’(2,5).find the coordinates of point p. (12 marks)

(use both calculation and graphical approach)

4. Opio tied a string on a peg, but realized that he moved it to form a circle which was passing through three edges of a triangle of sides A, B and C. If the length of AB is 12cm, and angle ABC is 750,with length AC=10cm,

a). Sketch the figure to represent the Opios rotation.

b). name the figure formed mathematically.

c). construct an accurate figure using a pair of campuses, ruler, protractor and a pencil.

d). construct an accurate circle passing through the three edges of the triangle ABC, hence read the radius of the circle drawn and otherwise calculate the area of the circle formed.

5. a). Given the relation that g(x)=2x+5, find the range g(x), the domain (-2,1,4,6,3, -6)

b). if f(x)= find the value of

(i) f (2)

(ii) f (-2)

6. Given the function f (x)=4y2+3y, find

a). f (0) c). f (-1)

b). f (1) d). f (0.5)

7. If a= and b=, find

a). 2a b). 0.5a c). 2a+3b

In each case, you are required to find the magnitude in each case.

8. To an aircraft flying from station A, which is 350km from town B at a bearing on a bearing of 2250, changed its course ant went to station C which is 1350 from B and at a distance of 200km.It then went to station D which is due west at a distance of 150km from C. use a scale of 1cm to represent 20km,

a). Draw a sketch diagram to indicate the stations.

b). construct an accurate diagram and find the shortest distance between A and D, Hence the bearing of A from D. (To be done on a graph paper)

9. An interior angle of a regular polygon is 1200.name the polygon.

What is the interior angle of the polygon?

10. Draw the graphs of the following lines.

a). y=x+3

b). 2y=4x

c) y-2x+3=0

11. Draw the following lines on the same Cartesian plane

a) y=2x+6

b) y=2x+3

c) 2y=-x+4

Identify the two lines which are parallel and find their gradient

12. A supermarket announced the following reduction in prices for different items for the coming festive season

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | quantity | Original prices(ugx) | Percentage | Sale price(ugx) |
| Sugar | 25kg | 46,000 | 15.2 | ------------ |
| Powdered milk | 2.5kg | ------------- | 10 | 72,300 |
| Bed sheets | 1piece | 53,000 | ------------ | 49,350 |
| Bed covers | 1pair | 82,600 | 13.1 | ------------ |
| Ice cream | 500ml | 11,700 | 14.7 | ------------- |

Copy and complete the above table. Correct your prices to the nearest whole numbers.

11.