NAME……ADM NO……CLASS…….

KCSE ONLINE REVISION
TERM 2 MID-TERM EXAM 2014
MATHEMATICS FORM 2

INSTRUCTIONS: ANSWER ALL QUESTIONS IN THE SPACES PROVIDED

1) Without using logarithm tables find the value of ; (3mks)

$\log_{10}96 + 3\log_{10}5 - \log_{10}12$

2) a) Find the gradient of straight line joining the points P (2, 3) and Q (8, -6) (2mks)

b) Hence, find the equation of the line through P perpendicular to line PQ. (3mks)

3) Use logarithm tables to evaluate
(4mks)

$$\frac{0.03989 \times \sqrt[3]{0.6736}}{(0.08976)^3}$$

4) Use mathematical tables to find;

i) The reciprocal of 0.3386
(2mks)

ii) The square of 4.857
(2mks)

5) Find the equation of the line which passes through the point P(1, 3) and is perpendicular to the line whose equation is 2y – 3x = 7.
(3mks)

6) Given that log3=0.4771 and log5=0.669. Find without using log tables the value of log 3375.
(3mks)

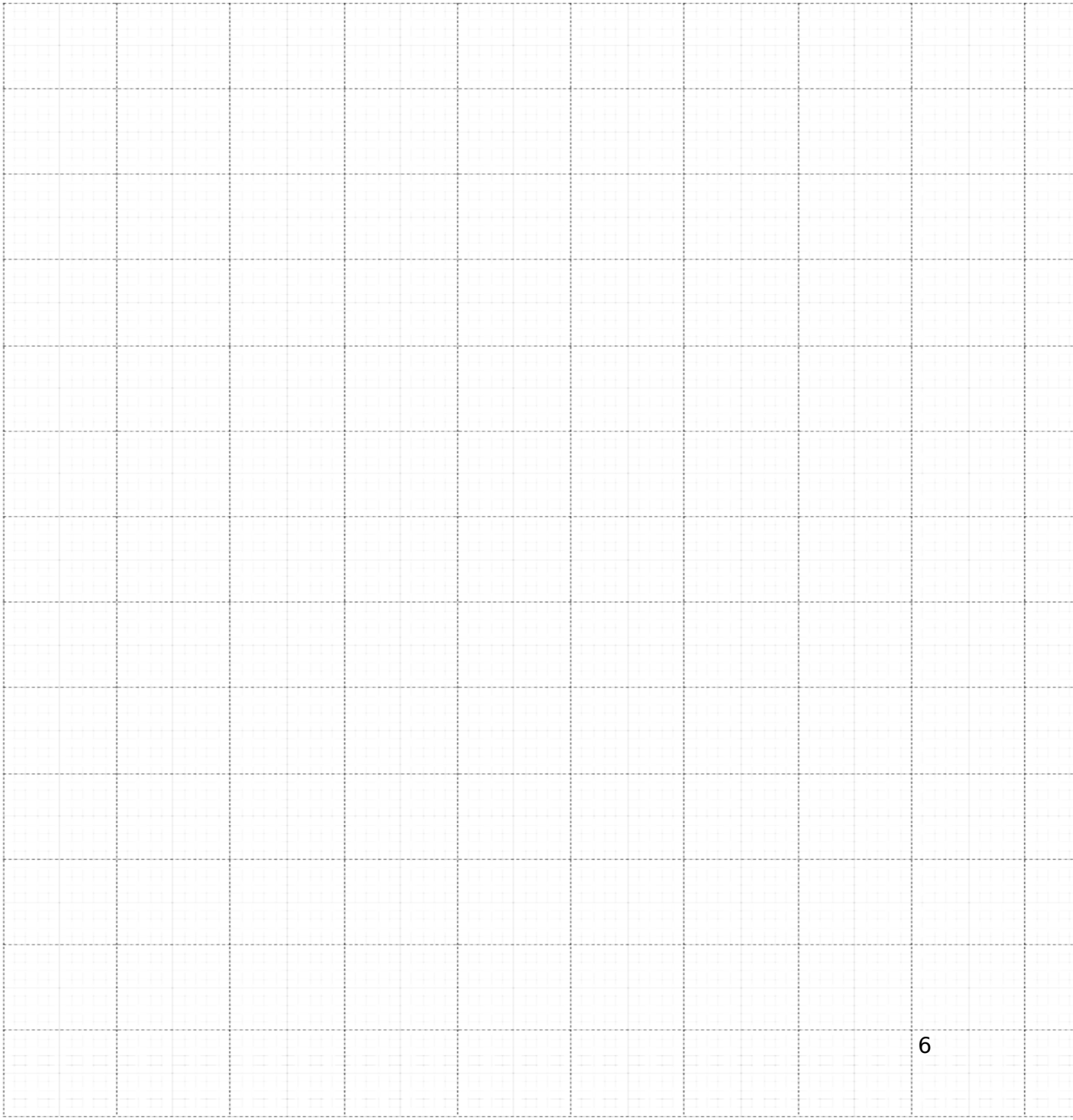
7) The points P(1,6) Q (2,2) R (1,1) S(4,2) are the vertices of a quadrilateral PQRS

a) On a graph paper plot the points PQRS and hence draw the quadrilateralPQRS. (2mks)

b) Plot the points of the image and name them $P^1Q^1R^1S^1$ under the rotation $+90^0$ about the origin and state the coordinates of the vertices. (5mks)

8) a) On a graph paper plot the P (-2, 2) Q (-8, 6) R (-9, -4) S (3, -2)
(2mks)

b) Plot the points of the image under the reflection in the line x = -4.
(3mks)



9) State how many lines of symmetry the following figures have.

a) A square (1mk)

b) A kite (1mk)

c) Equilateral triangle
(1mk)

d) Rhombus
(1mk)

10) a) Find the gradient of the line joining the following points (0, 4) (3, 4) (2mks)

b) A straight worth gradient 3 passes through the point A (3, -4). Find the equation of the line.
(3mks)

11) In the figure below Ab = AD BC = CD show that s ABC and ACD are congruent.
(3mks)

12) The vertices of a quadrilateral are A (2, 1) B (2, 2) C (4, 4) D (4, 1)

a) Plot the points A B C D on a graph paper.
(2mks)

b) Plot the image of the quadrilateral under the reflection in the line y = 0 and state its vertices A’ B’ C’ D’
(4mks)

c) Draw the image of A’ B’ C’ D’ under the reflection in the line y = -x and name it A” B” C” D” and state its co-ordinates.
(4mks)

13) The diagram below show a quadrilateral PQRS and its image P’ Q’ R’ S under a given rotation.

a) Copy the diagram on you graph paper and use construction to locate the centre O of this rotation.

b) State the coordinates of point O
(2mks)

c) What is the angle of rotation.
(3mks)

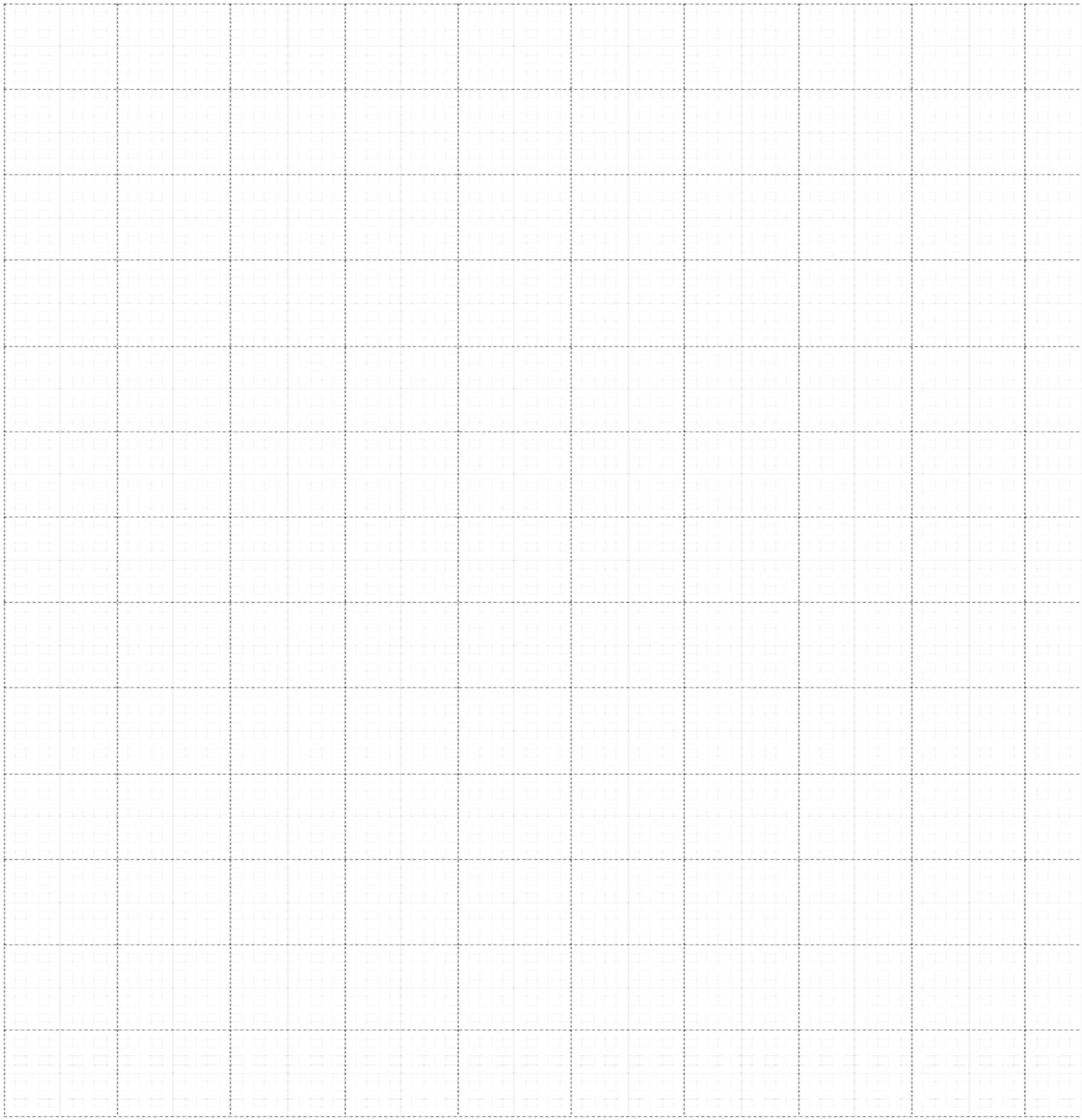
14) a) Plot points P (-3 7) Q (-5 3) R (-3, 1) S (-1, 3)
(2mks)

b) What type of figure is PQRS?
(1mk)

c) What is the equation of the line of symmetry?
(2mks)

d) Reflect PQTRS in the line y = x and find the new position of PQRS.
(3mks)

e) What is the equation of the line of symmetry of the new figure?
(2mks)



15) The total surface area of solid cube is 2400cm^2;
(5mks)

a) Find the length of a side

b) Find the volume of the cube

16) Use the formular $^1/_u + {}^1/_v = {}^1/_f$ to find
(4mks)

f if u = 4.23 and v = 6.42

17) Evaluate 2.671 ÷ 3
(3mks)

18) Remove the brackets and simplify
(2mks)

3 (r + s) + 4 (r + s)

19) The GCD of two numbers is 12 and their L.C.M is 240 if one of the number is 60. Find the other number.
(4mks)

20) A father is three times as old as his son. Find an expression for the product of their ages five years ago. If the son is x years old now. (3mks)

21) find the gradient and equation of a line joining points (-2, 2) and (4, 2) (3mks)