

KIPSUTER BOYS SECONDARY SCHOOL

CAT 1 TERM 2, 2017

FORM TWO

MATHEMATICS

Name: _____ Adm. No. _____ Class: _____ Date: _____

Instructions:

- i). Write your name, admission number, class & date in the spaces provided above.*
- ii). Check the question paper to ascertain that all pages are printed as indicated and that no question is missing.*
- iii). Answer **ALL** questions in the spaces provided after each question.*

1. Evaluate:

a) $2^3 \times 2^{-3}$ (2mks)

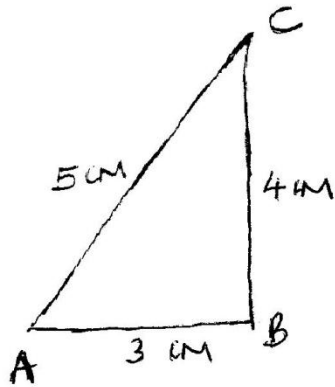
b) $\left(\frac{2}{3}\right)^{-2}$ (2mks)

2. A line L is perpendicular to the $y=3x$. If L passes through point(0,4), find:

- a) The equation of L. (3mks)

b) The point Q where L intersects the line $y=3x$. (2mks)

3. Figure below shows a triangle ABC in which $AB=3\text{cm}$, $BC=4\text{cm}$ and $AC=5\text{cm}$. Rotate the triangle through $+90^\circ$ about the point O. (3mks)



• O

4. A retailer usually makes a profit of 50% by selling an article at sh. 540. If he reduces the price of the article by sh. 54, calculate the percentage profit he will now make. (3mks)

5. Evaluate without using a calculator: (3mks)

$$\frac{-12 \div (-3) \times 4 - (-20) + 3}{-6 \times 6 \div 3 + (-6)}$$

6. Given the coordinates of A and B as (4,2) and (8,2) respectively, find the equation of the perpendicular bisector of AB. (3mks)

7. Solve for x in the equation.

$$27^x \times 3^{(2x-2)} = 9^{(x+2)} \quad (3\text{mks})$$

8. Evaluate without using tables: (4mks)

$$\sqrt[3]{\frac{0.729 \times 409.6}{0.1728}}$$

9. Evaluate $\frac{a^b - b^a}{b^b \times a^a}$ If a=2 and b=-2. (2mks)