

R&PUBLIC OF SOMALILAND

FORM EIGHT EXAMS, 2017

MATHEMATICS



NATIONAL EXAMINATION BOARD





SOM EXAMS

TOTAL

Name

School

Roll No

REPUBLIC OF SOMALILAND
MINISTRY OF EDUCATION AND HIGHER EDUCATION
SOMALILAND NATIONAL EXAMINATION AND CERTIFICATION BOARD
GRADE 8

MATHEMATICS

JULY 2017

2 HOURS

PLUS 10 MINUTES FOR READING THROUGH THE PAPER

INSTRUCTIONS:

- This paper consists of 10 printed pages.
- Count them now. Inform the invigilator if there are any pages or extra ones

This Exam consists of **TWO** parts:

- Part One : 30 Multiple Choice
- Part Two : 8 Structured questions

60 Marks

40 Marks

TOTAL

100 Marks

- Answer **ALL** questions in Part 1 and Part 2.
- Calculator, Mobile and extra papers are not allowed



SOM EXAMS

1. $3^4 \div 3^5$ is :

- b. 3^1 t. 3^{-1} j. 3^9 x. 3^0

2. $\left(3\frac{1}{3}\right)^3$ is :

- b. 333.23 t. 333.9 j. 333.33 x. 333.6

3- Simplifying $3\frac{1}{2} + 5\frac{1}{3}$ is :

- b. $\frac{53}{6}$ t. $\frac{56}{3}$ j. $\frac{23}{5}$ x. $\frac{53}{5}$

4- Write this number 0.00001030 in scientific Notation:

- b. 1.03×10^{-6} t. 1.03×10^{-4} j. 1.03×10^{-5} x. 10.3×10^{-6}

5- $1\frac{2}{3} + (4 \times 2) \div \frac{1}{2} - 4$ is :

- b. $\frac{5}{3}$ t. $\frac{41}{3}$ j. $\frac{-41}{3}$ x. $\frac{46}{3}$

6- Quotient $\sqrt[3]{125} \div \sqrt{25}$ is :

- b. 3 t. 5 j. $\frac{5}{3}$ x. 1

7- 12.5% of 80 of hours is :

- b. 15 hr t. 10 hr j. 8 hr x. 20 hr

8- Factorize $12x^2 + 14x + 4$:

- b. $(6x + 4)(2x + 1)$ t. $(6x - 4)(2x + 1)$
j. $(6x - 4)(2x - 1)$ x. $(6x + 4)(2x - 1)$

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9- Solving $y^2 - 9 = 0$, the value of y is:

b. $y = \pm 3$

t. $y = \pm 1$

j. $y = \pm 9$

x. $y = 0$

10- Find the slope of this line equation

$y = \frac{6}{5}X - 4 :$

b. $\frac{5}{6}$

t. $\frac{6}{5}$

j. 6

x. -4

11- The slope of the line passing these points B (-2, 6) and T(-7, 5) is :

b. $\frac{2}{5}$

t. $\frac{-2}{5}$

j. $\frac{-1}{5}$

x. $\frac{1}{5}$

12- Find the equation with slope $M = \frac{2}{3}$ that passes the point (3, 4) :

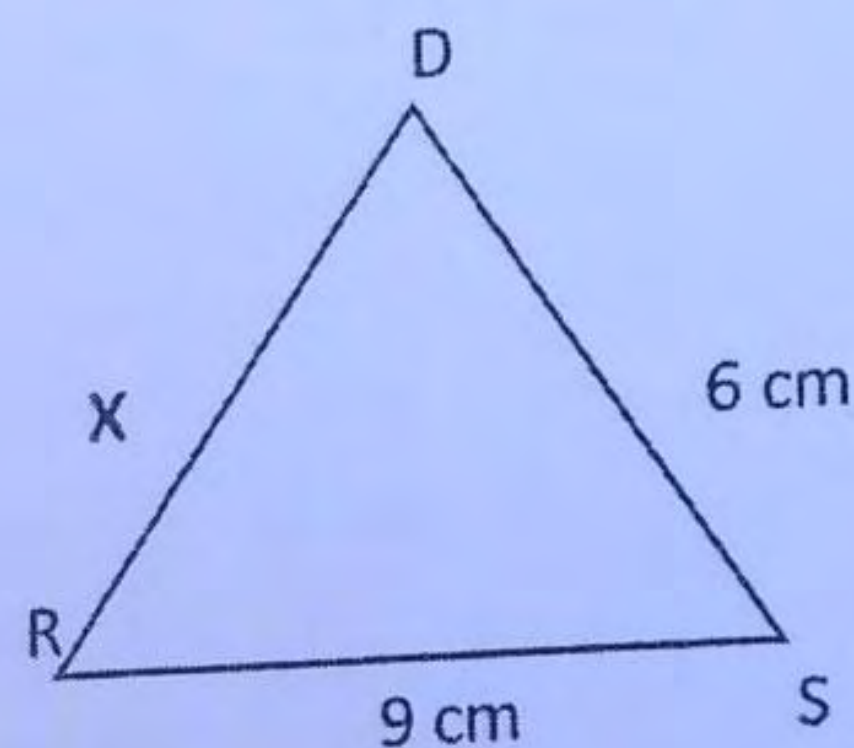
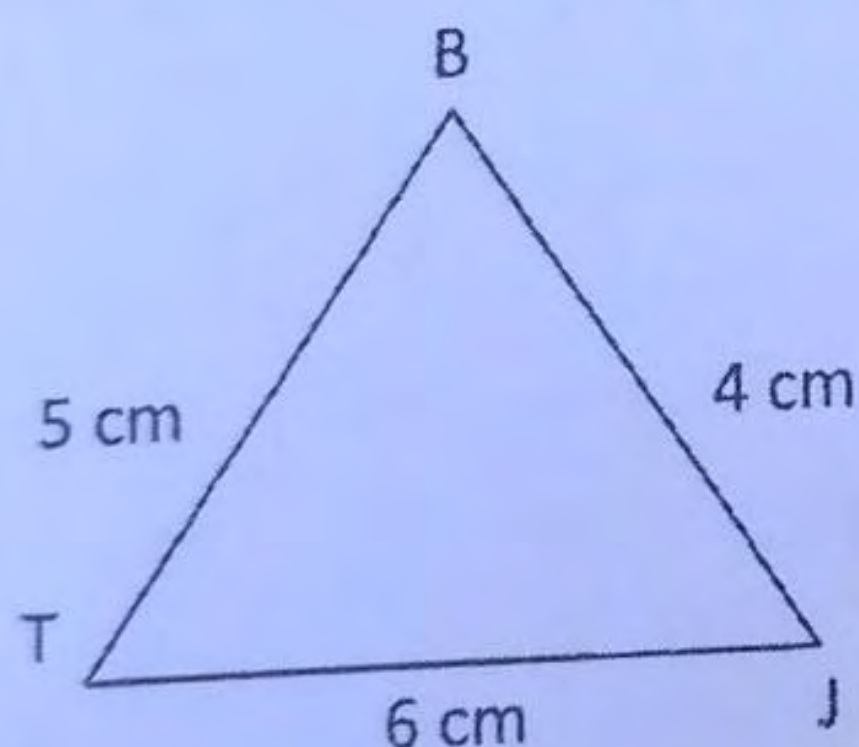
b. $y = \frac{3}{2}X + 2$

t. $y = \frac{2}{3}X + 2$

j. $y = \frac{2}{3}X - 2$

x. $y = \frac{3}{2}X - 2$

13. Given



The length of the missing side X is :

b. 5.7

t. 5.9

j. 7.5

x. 7.9

14. The measure of the exterior angle of a polygon with six sides is;

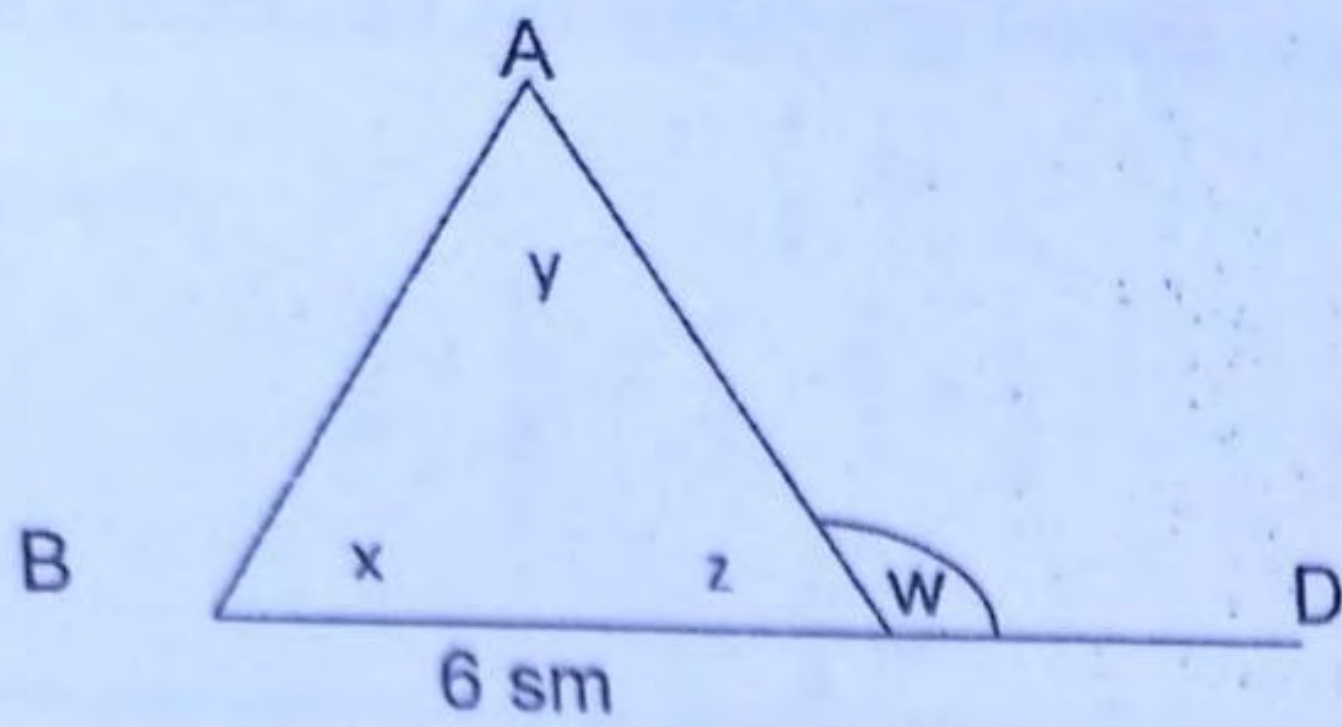
b. 90°

t. 72°

j. 45°

x. 60°

15. Given



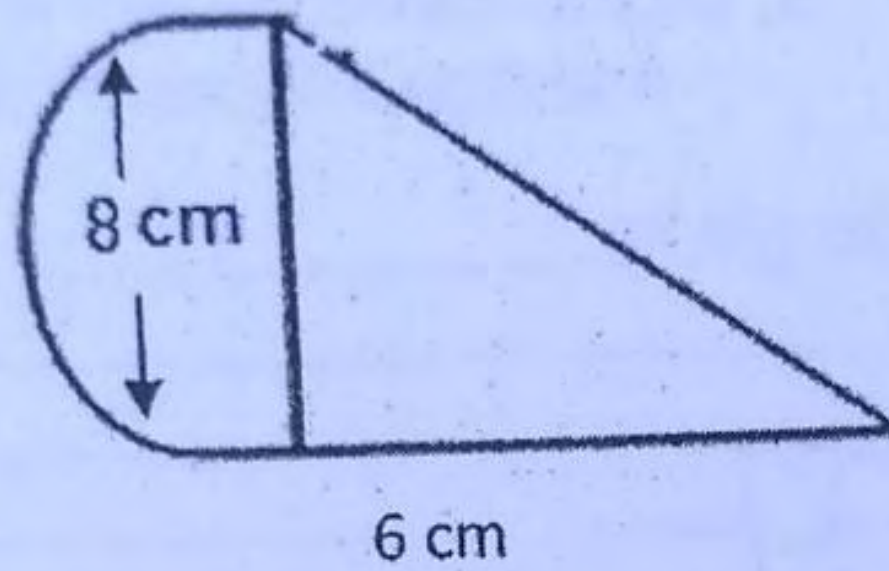
Angle W is equal to :

- b. $x + z$ t. $z + y$ j. $x + y$ x. $z - x$

16. The perimeter of a rectangle is :

- b. $2L + W$ t. $L + 2W$ j. $2(L + W)$ x. $\frac{1}{2}(L + W)$

17. In the figure below , The hypotenuse of this triangle is :



- b. 15 cm j. 10 cm x. 20 cm d. $4\sqrt{3}$

18. 300,000 cm when changed to Km, we get :

- b. 3 Km j. 30 km x. 300 km d. 3000 km

19. The breadth of rectangle whose area is 400 cm^2 , and its length is 25 cm is:

- b. 16 cm j. 14 cm x. 18 cm d. 12 cm

20. Which of the below is not an average:

- b. Mode j. Mean x. Median d. Sum

21. The mode of these numbers 37, 41, 37, 36, 39, 39, 39, 40, 40, 41, 41, 39 is:

- b. 40 j. 39 x. 37 d. 41

22. The age of 6 boys is 7, 10, 12, 10, 13, and 14 the mean of their ages is:

- b. 12 j. 11 x. 10 d. 12



b. $\frac{1}{4}$

j. 1

x. $\frac{1}{2}$

24. When a die is tossed, the probability to get 2 is :

b. $\frac{1}{3}$

j. $\frac{2}{6}$

x. $\frac{2}{3}$

d. $\frac{1}{6}$

25. The longest side of right-angled triangle is called :

b. Hypotenuse

j. diameter

x. breadth

d. Radius

26. The square of the hypotenuses of right triangle is equal to :

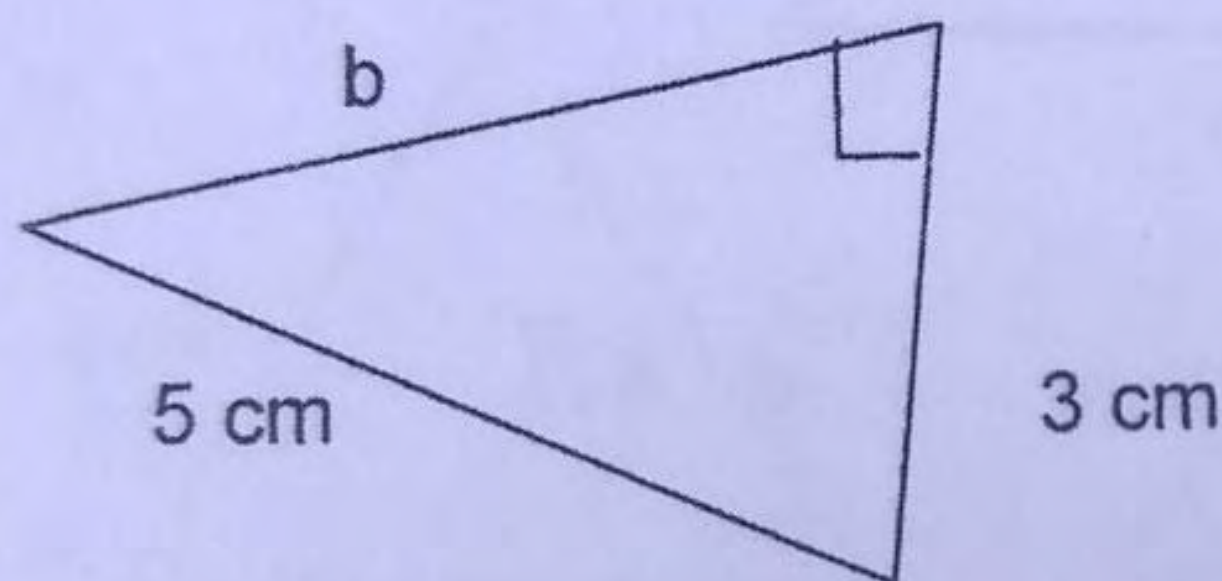
b. Sum of the other two sides

j. Sum of the square of the other two sides

j. Subtraction of the other two sides

x. Multiplication of the other two sides.

27. The length "b" of this right angled triangle is:



b. 4 cm

t. 4.5 cm

j. 6 cm

x. 15 cm

28. The exponent 10 of 10,000 is :

b. 3

t. 4

j. 10

x. 1

29. $9 = 3^2$, When written in logarithmic form is :

b. $\log_2 3 = 9$

t. $\log_3 2 = 9$

j. $\log_2 9 = 3$

x. $\log_3 9 = 2$

30. $\log_{15} 225 = 2$, When written in exponential form is :

b. $225 = 15^2$

t. $225 = 2^{15}$

j. $225 = 15^{-2}$

x. $225 = \sqrt{15}$



Two: Answer All Questions

(40 Marks)

a). Simplify

$$\frac{3}{4} - \frac{1}{3} \times \frac{5}{3} \div \frac{2}{3} + \frac{1}{4}$$

b) Change 60320105 into scientific notation :

2. In this equation

$$2x - 3y = -5$$

$$3x + 2y = 12$$

Find the values of X and Y using the graph

3. Find the equation line passing these points;

$(3, 2)$ and $(-2, 4)$

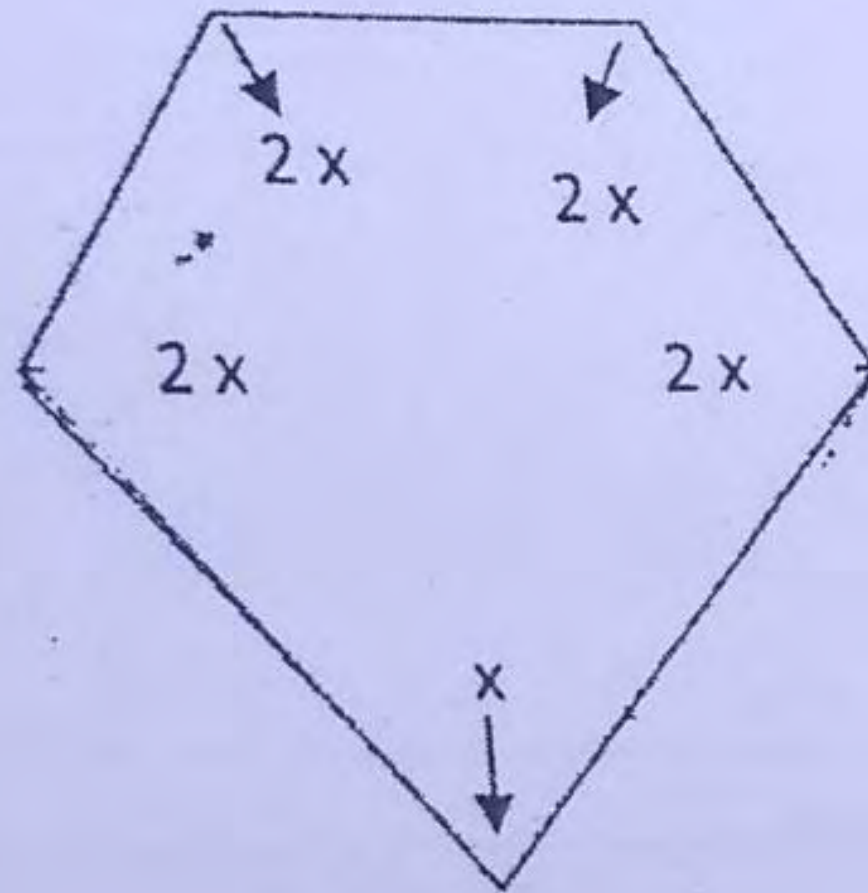


SOM EXAMS

4. 12 labour can complete a house of two rooms in 6 days. How many days will 3 labour can complete that house?

- a) Find the slopes of the lines with the following equations:
- $2x + 3y = 6$
 - $2y = x + 6$

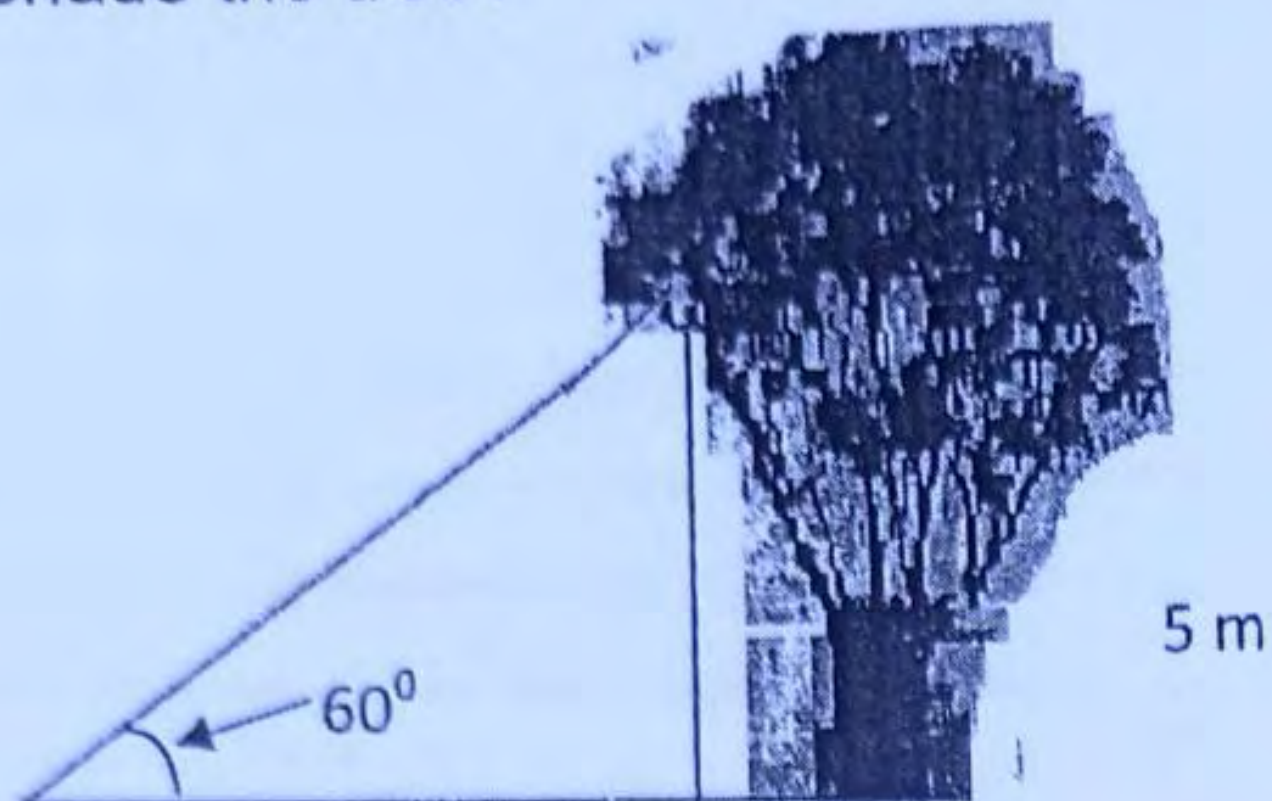
- b) Find the value of X of the following polygon with 5 sides



6. The mean of the weights of 6 boys is 28 kg. The mean of the weights of 4 of them is 26 kg. What is the mean of the weights of the other boys?



7. The height of a tree is 5 m. The sun rays make an angle of 60° with the ground. What is the length of the shade the tree?



8. Find the value of y

(2 Marks)

a) $3^y = 9^{y-1}$

b) Evaluate these logaridms

i) $\text{Log}_7 49$

ii) $\text{Log}_5 625$

END