

**REVISION
TEST
ONE**

MATHEMATICS

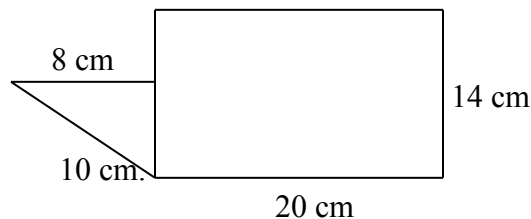
S.1

TIME: 1½ HOURS

APRIL 2012

Attempt all the questions:

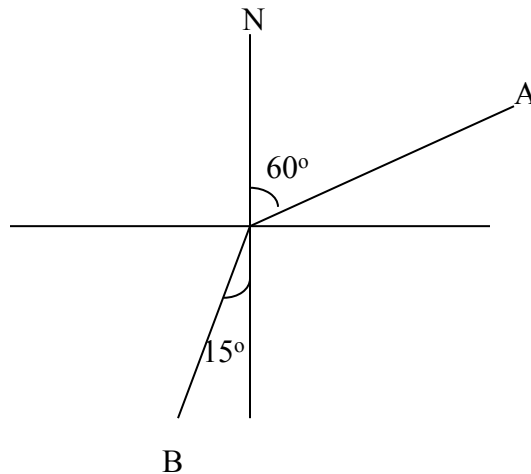
1. If $443_n + 561_n = 1224_n$. Find n .
2. Find the smallest amount of money which can be divided equally among 6 boys or 15 boys or 18 boys.
3. Calculate $\frac{1}{3} + \frac{7}{4} - \frac{5}{5}$ of $\frac{1}{2} \div \frac{3}{8}$
4. Given that $a = \frac{3}{8}$, $b = \frac{1}{5}$. Find $\frac{a+b}{a \times b}$
5. A triangle has angles 65° , $(2x + 30)^\circ$, $(3x)^\circ$. Find the value of the smallest angle.
6. Express 180 km/hr in m/s .
7. Study the figure and answer the questions that follow:



Using $\pi = \frac{22}{7}$, find the total area and perimeter of the figure.

8. a) ABCDE is a regular polygon with point O at the center. Calculate the size of the angle OAB
b) The interior angle of regular polygon is 160° . How many sides has the polygon.
9. a) Think of a number x , multiply it by 2 and add -18 to it, my result is 10, find x .
b) Simplify $x + 2a + \frac{3x}{4} - \frac{2a}{5}$

10. In the figure shown below, state the bearing of the points A and B in two different ways.



SECTION B:

11. A ship sails 95km on a bearing of 140° then a further 102km on a bearing of 260° and then returns directly to its starting point.

Find: a) the length of the return journey.

b) the bearing of return journey.

12. a) Using a pair of compasses and ruler only, construct a triangle XYZ , where $XY = 8.5\text{cm}$, angle $XYZ = 105^\circ$ and $XZ = 12\text{cm}$.

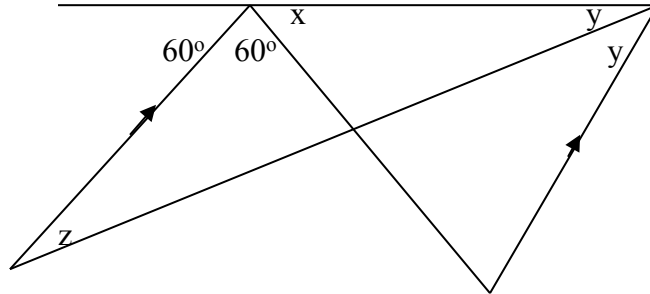
b) Measure angle X and Z and side XZ .

13. Joy distributed books to 60 students. She gave squared books to 34 students and lined books to 40 students. Fourteen of the students got both types. How many students received:-

a) squared books but not lined.

b) lined books only?

14. a)



Calculate the size of x , y and z , giving reasons.

b) Write down the next two numbers in the following sequences:-

i) 1, 3, 6, 10, -----

ii) 1, 4, 20, 120, -----, -----

15. a) Plot the points A(2, 2), B(2, 11), C(6, 10) and D(6, 6)

b) What shape do you get?

c) Find the area of the shape/figure.

Solutions

SENIOR ONE MATHEMATICS – REVISION TEST ONE-SOLUTIONS.

1. 443_n

561_n

1224_n

Using $4 + 6 = 2 \pmod n$

$$n + 2 = 10$$

$$n = 10 - 2$$

$$n = 8.$$

2. L.C.M of 6,15,18

2	6	15	18
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3	3	15	9
3	1	5	3
5	1	5	1
	1	1	1

$$\begin{aligned} \text{L.C.M} &= 2x3^2x5 \\ &= \underline{90} \end{aligned}$$

$$3. \quad \frac{1}{3} + 1\frac{3}{4} - \frac{5}{5} \text{ of } \frac{1}{2} \div \frac{3}{8}$$

$$= \frac{1}{3} + \frac{7}{4} - \left(1x\frac{1}{2}\right)x\frac{8}{3}$$

$$= \frac{1}{3} + \frac{7}{4} - \left(\frac{1}{2}x\frac{8}{3}\right)$$

$$= \frac{1}{3} + \frac{7}{4} - \frac{4}{3}$$

$$= \frac{4+21-16}{12}$$

$$= \frac{9}{12}$$

$$= \underline{\frac{3}{4}}$$

$$4. \quad a = \frac{3}{8} \quad b = \frac{1}{5}$$

$$\frac{3}{8} + \frac{1}{5}$$

$$\frac{a+b}{axb} = \frac{\frac{3}{8} + \frac{1}{5}}{\frac{3}{8}x\frac{1}{5}}$$

$$= \frac{15+8}{\frac{40}{3}}$$

$$= \frac{23}{3}$$

$$= \underline{7\frac{2}{3}}$$

5. $65^\circ + (2x + 30)^\circ + 3x^\circ = 180^\circ$

$$95^\circ + 5x^\circ = 180^\circ$$

$$5x^\circ = 180^\circ - 95^\circ$$

$$\frac{5x^\circ}{5} = \frac{85^\circ}{5}$$

$$x = 17^\circ.$$

Smallest angle = $3x^\circ$

$$= 3 \times 17^\circ$$

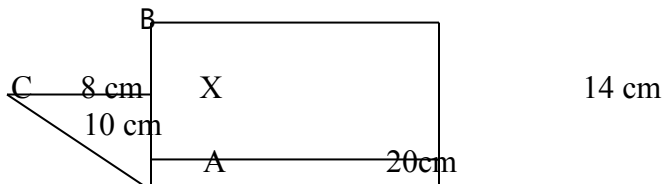
$$= \underline{51^\circ}.$$

6. 180 Km/hr to m/s.

$$180 \text{ Km/hr} = \frac{180 \times 1000}{3600}$$

$$= \underline{50 \text{ m/s.}}$$

7.



Using triangle CAX

$$Ax^2 + 8^2 = 10^2$$

$$Ax^2 = 100 - 64$$

$$Ax^2 = 36$$

$$Ax = \sqrt{36}$$

$$Ax = 6 \text{ cm}$$

$$\therefore Bx = 14 - 6$$

$$= 8 \text{ cm.}$$

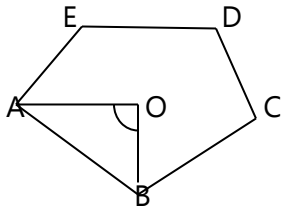
$$\text{Perimeter} = (20 \times 2) + 14 + (8 \times 2) + 10 = \underline{80\text{cm.}}$$

$$\text{Area} = (20 \times 14) + \frac{1}{2} \times 6 \times 8$$

$$= 280 + 24$$

$$= \underline{304\text{cm}^2}$$

8.



$$\begin{aligned} \angle AOB &= \frac{360^0}{5} \\ &= \underline{72^0} \end{aligned}$$

$$\begin{aligned} \text{(a) } \angle OAB &= \frac{180^0 - 72^0}{2} \\ &= \frac{108^0}{2} \\ &= \underline{54^0} \end{aligned}$$

(b) Exterior angle

$$\begin{aligned} &= 180^0 - 160^0 \\ &= 20^0. \end{aligned}$$

Number of sides

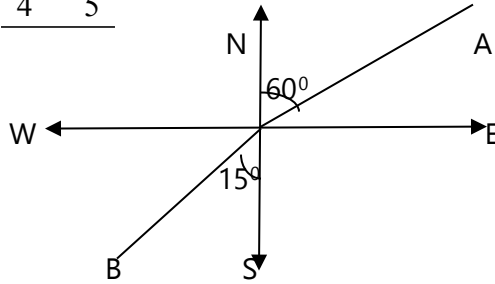
$$\begin{aligned} &= \frac{360^0}{20^0} \\ &= \underline{18 \text{ sides.}} \end{aligned}$$

$$\begin{aligned} 9. \text{ (a) } & (X \times 2) - 18 = 10 \\ & 2x - 18 = 10 \\ & 2x = 28 \\ & X = 14. \end{aligned}$$

(b)Simplify:

$$\begin{aligned} & x + 2a + \frac{3x}{4} - \frac{2a}{5} \\ &= \frac{20x + 40a + 15x - 8a}{20} \\ &= \frac{35x + 32a}{20} \\ &= \frac{7x}{4} + \frac{8a}{5} \end{aligned}$$

10.



(i) Bearing of A; 060°

$\underline{N60^{\circ}E}$

(ii) Bearing of B; 195°

$\underline{S15^{\circ}W}$.

SECTION B

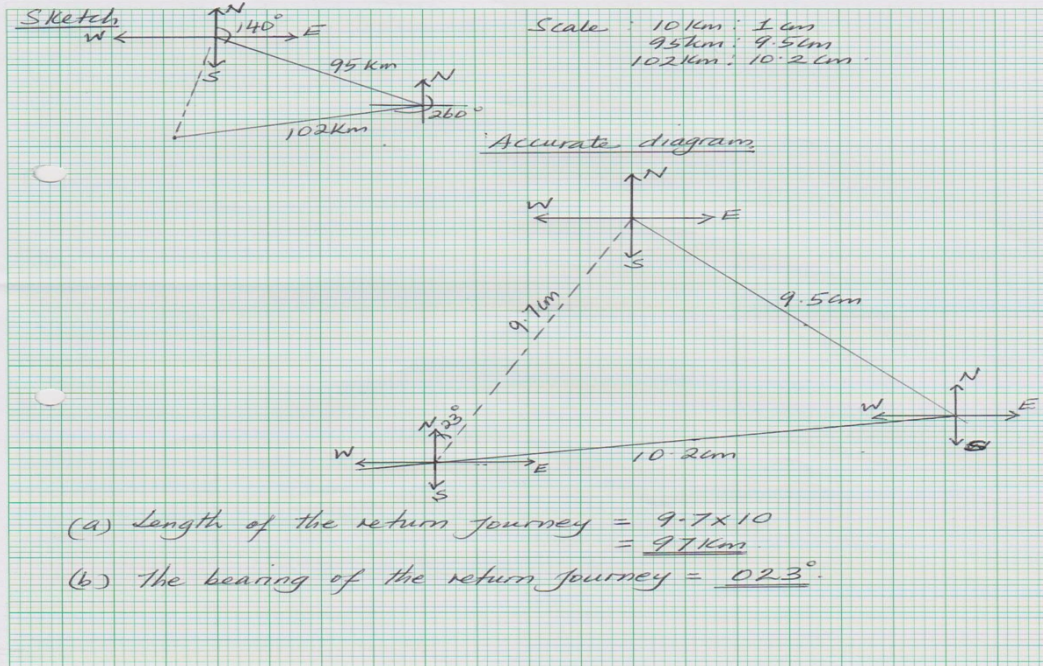
11.

UGANDA NATIONAL EXAMINATIONS BOARD

(To be fastened together with other answers to paper)

Name Qn. 11.

Index Number

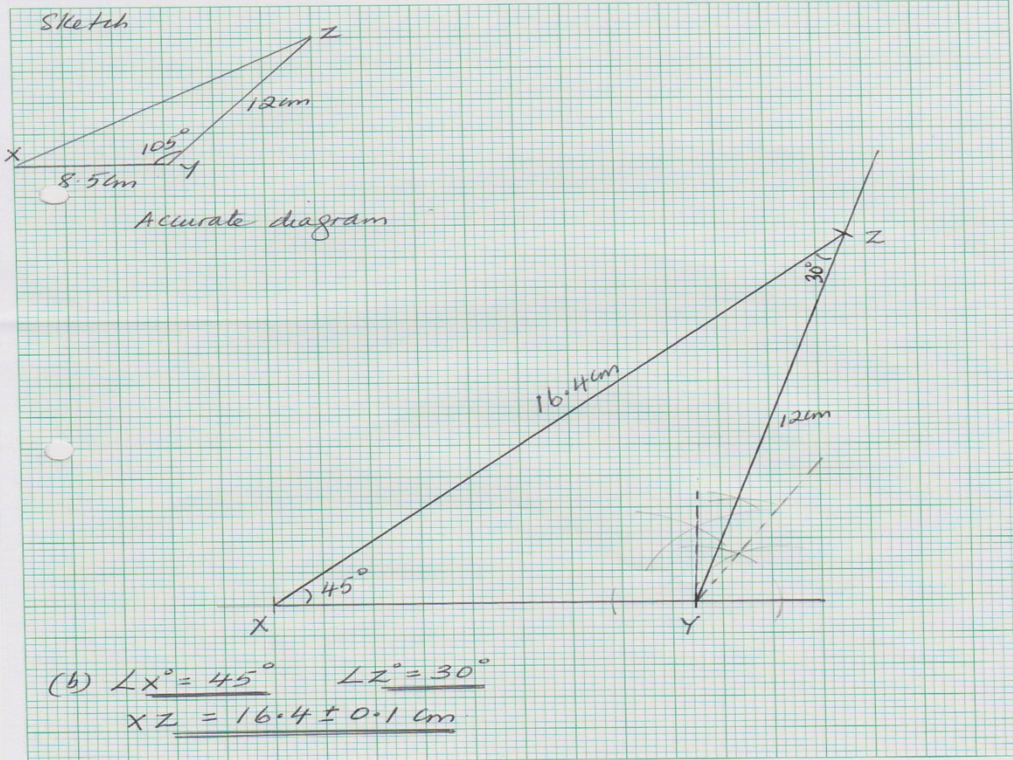


12.

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Name On 12 Index Number



13. $n(E) = 60$

$n(S) = 34$

$n(I) = 40$

$n(S \cap I) = 14$

Use a Venn diagram to answer this question.

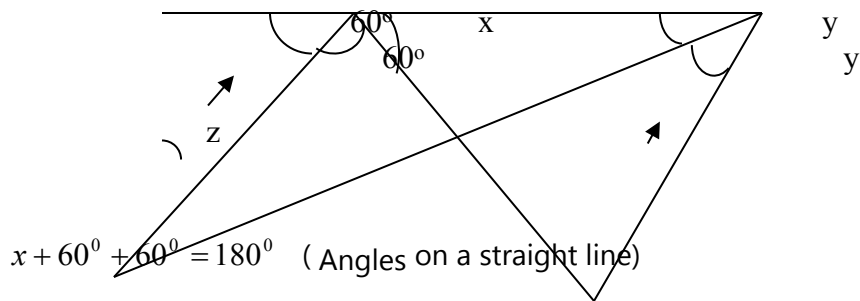
$n(S \cap I^c) = 34 - 14$

= 20 students.

$n(I \text{ only}) = 40 - 14$

= 26 students.

14.



(b). write down the next two numbers in the following sequences;

(i) 1, 3, 6, 10, 15, 21.

(ii) 1, 4, 20, 150, 840, 6720.

15.

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Name On 15

Index Number

