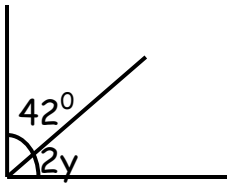
PRE- PLE SET 15B

Name:……..Stream …….

1. Simplify $-8 - (-1)^3$

2. Solve for y: $23y = 21_{seven}$

3. The diagram below is an obtuse angle of 92^0. Find the value of y.



4. Given that $3x - y = 4$, Evaluate $\frac{8^x}{2^y}$

5. Find the highest number that leaves a remainder of 1 when it divides 25 but a remainder of 2 when it divides 20.

6. Solve for n: $3^{2n} \div \frac{1}{9} = 1$

7. Name the regular polygon with 14 right angles.

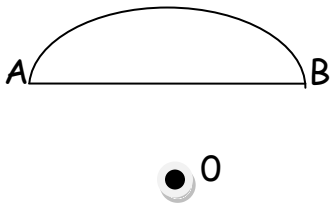
8. What number has been expanded to give:-

$$(2 \times 4^0) + (1 \times 4^2) + (3 \times 4^1)$$

9. Workout **2** ÷ $\frac{2}{3}$ using repeated subtraction.

10. Kato and Kakulu had 2 scores of pens each. Kato lost 10% of his pens while Kakulu bought 20% more pens. How many pens do they have now?

11. The diagram below is part of a circle whose centre is at point O. Name line AB



12. Solve for y: $\frac{\sqrt{y}}{4}$ =4

13. Test 161 for divisibility by 7

14. Find the number whose scientific notation is $\mathbf{2.62 \times 10^{-2}}$

15. Using a ruler, a pair of compasses and a sharp pencil, bisect the line segment below.

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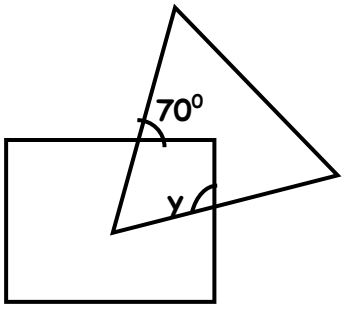
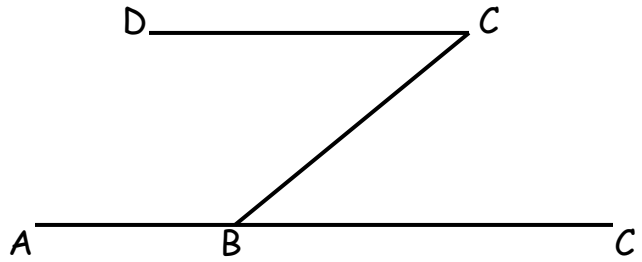
16. A square and an equilateral triangle were placed together as shown. Find the value of y.



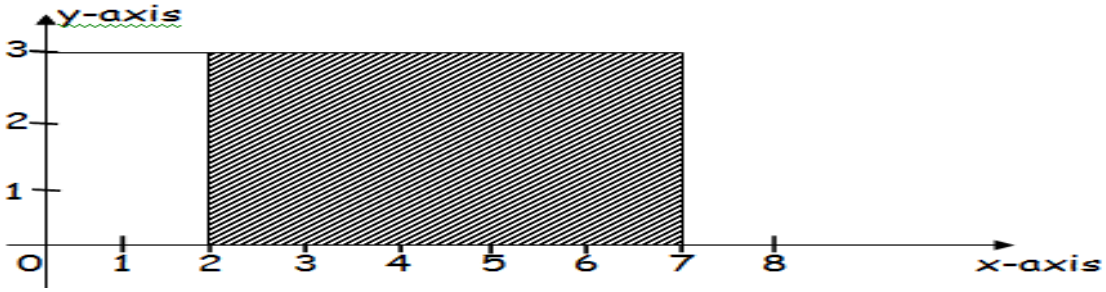
17. Given that A=90, h=6 and b=18. Find the value of a in $^{1}/_{2}$**h (a+b)** =

18. In the diagram below, bisect angle BCD using a ruler, a pair of compasses and a sharp pencil.



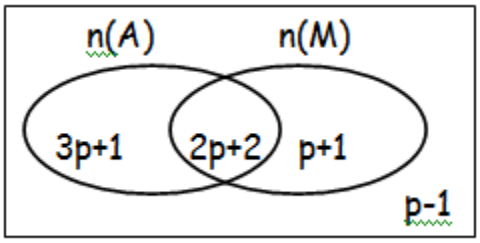
19. Draw a net of a cone in the space below.

20. In the diagram below, find the area of the shaded figure.



SECTION B

21. The venn diagram below is a summary of how people ate mangoes (M), apples (A) and those who did not eat any of the two.



(a) Given that 22 people ate at least a fruit, find the value of P.

(b) How many people did not eat apples?

22. Okimat`s water metre reading was 2394 at the beginning of the month and 2413 at the end of the month.

(a) How many units of water did Okimat use that month?

(b) Given that a unit of water is equal to one cubic metre, how many litres of water did Okimat use?

23. Using a pair of compasses, a ruler and a sharp pencil, construct a triangle KCP in which KP = 7cm, angle KCP = 60^0 and PKC is a right angle.

(c) Construct a perpendicular from K to meet PC at T

24. The table below shows commission a telecom company awards to its agents per transaction.

Range	**Commission**
Below shs.500	Sh.0
Sh.500 – sh.2000	Sh.50
Sh.2001 – sh.5000	Sh.100
Sh.5001 – sh.10,000	Sh.150

COINCOM, a mobile agent made transactions of sh.1700, sh.3500 and sh.8000.

(a) How much commission did the agent earn?

(b) A pen costs three times as much as a book and a pencil costs sh.200 more than twice the cost of a book. The total cost of all the three items is sh.3800.
Find the cost of each item.

25. Below is a magic square. Find the value of m, p and k.

$11\frac{1}{4}$	$3\frac{1}{2}$	k
p	M	10
$6\frac{3}{4}$	$12\frac{1}{2}$	$4\frac{3}{4}$

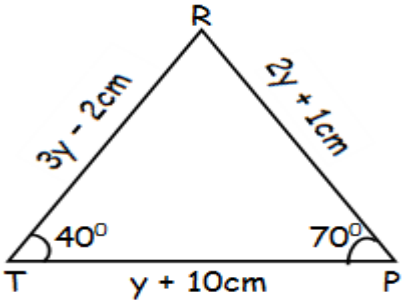
26. Muguunwa left Jinja at 11:55am travelling at an average speed of 60km/hr and he reached Kampala at 1:05pm. He rested for $^{5}/_{12}$hr and continued to Masaka a distance of 140km. he reached Masaka at 3:15pm.

(a) Find the distance between Jinja and Kampala.

(b) Calculate the speed at which he was travelling for the journey between Kampala and Masaka.

(c) Calculate the average speed for the whole journey from Jinja to Masaka.

27. Below is a triangle.



(a) Find the value of y

(b) Work out the perimeter of the triangle TPR.

28. Zaina, Zai and Zaituni visit their grandmother at intervals of 4 days, 7days and 14 days respectively. on Monday, all the three girls visited their grandmother.

(a) After how many weeks will all the three girls visit at ago?

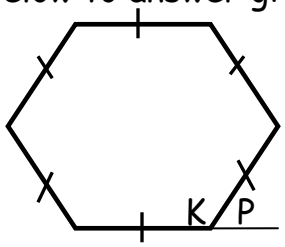
(b) What day of the week will it be when they will all visit at ago again?

29. A sum of sh.10, 000 was paid for a book in coins of sh.500 and sh.1000 making a total of 14 coins.

(a) Find the number of coins of each denomination.

(b) Find the ratio of sh.500 coins to sh.1000 coins.

30. Use the diagram below to answer given questions.



(a) By triangulation, find the interior angle sum of the polygon.

(b) Find the value of k in degrees.

(c) Workout the value of p in degrees.

31. The median of four consecutive odd numbers is 14. The fourth number is k+1.

(a) Find the value of k.

(b) List down the numbers.

32. Town A is on a bearing of 290^0 from town B, 60km away and town B is on a bearing of 270^0 from town C, 80km away.

(a) Draw a sketch diagram showing the location of the three towns.

(b) Using a scale of 1cm to represent 10km, draw an accurate scale drawing for the above information.

(c) Find the shortest distance between A and C in km.