ROYAL GRAMMAR SCHOOLS

MATHEMATICS(SECTION A) QNS

(Upper Primary)

Paper one(1-30).

1. Add: $\frac{1}{7} + \frac{3}{7}$

2. Write in words: 5,640

3. Subtract: 6,304 -716

4. Express 55 in Hindu-Arabic numerals.

5. Change 0.7 to a common fraction.

6. One book costs Sh.4,500. What is the cost of five similar books?

7. Work out the perimeter of the rectangle below.

8. Round off 29.99 to the nearest tenths.

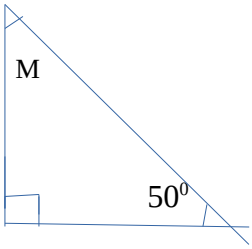
9. Two men can slash a compound in six hours. How many more men can do the same piece of work in only three hours working at the same rate?

10. Convert 72km/hr to m/sec.

12. Simply: 2(3a+4b).

13.Change 202_{three} to base ten

14.Find the size of angle marked M in the triangle below.



15. Given that set; P={0,1,2,3,4,5} and set B={1,3,5,7}.Find (PUB)

16. $\frac{1}{4}$ of a number is 5. Find the number.

17. Solve for k; k+11=21.

18. I think of a number, multiply it by four and add three, my result is twenty three. What is the number?

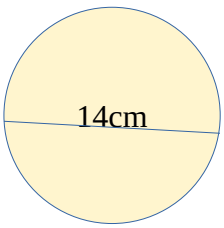
19. Find the square root of 36.

20. Using a pencil, ruler and a pair of compasses only, construct an angle of 60^0 in the space below.

21. Simply; 6m+5k-m+2k.

22.A car covers a distance of 270km in 3 hours . Calculate the speed in km/hr.

23. Work out the circumference of a circle below;



24. The ratio of John's height to that of his friend Jowali is 6:4. If their total height is 200cm, Find Jowali's height in cm

25. Work out 2x8x0.

26.Find the LCM of 6 and 15.

27. Simply: $^{+}4 + {}^{+}6$

28. Work out the next numbers in the sequence: 1,8,27,81,__,___

29.Increase Sh.12,000 by 20%

30. If a =5, b = 4.Find the value of 2a +3b -a

END

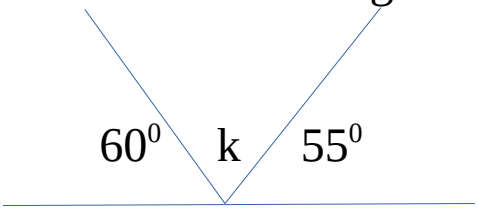
SECTION (A)

Paper Two(1-30)

1.Multiply: 6
x 4

2. $2p - 8 = 20$

3. Find the size of angle marked 'k' in the figure below.



4. Change 7_{ten} to binary system.

5. Find the Greatest Common Factor of 10 and 20.

6. Simply: $\frac{3}{4} - \frac{1}{3}$

7. Write in figures: Eight thousand forty nine.

8. If set P = {a,b, c, d, e, f} and set Q ={a, e, i, o, u}. Find the members of set (P- Q)

9. Express a distance of 3.4km in metres.

10. What is the supplement of 70^0?

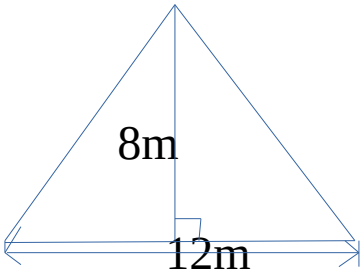
11.If $\frac{n}{8} = 5$. Find the value of n.

12. In a class of 80 pupils, 32 pupils are boys. Express the number of girls as a percentage of the whole class.

13. Using a ruler, pencil and a pair of compasses only, construct an angle of 30^0 in the space below.

14. Alex will celebrate his birthday next week. What is the probability that he will celebrate it on Saturday?

15.Calculate the area of the triangle below.



16. Mr. Okello bought 3 exercise books at Sh. 1,200. How much would he pay for half a dozen of such similar books?

17. Simplify: 3(m+2) + 2(1+m).

18. Multiply:7.5 x 5

19. Write $\frac{1}{5}$ as a decimal fraction.

20. A trader reduces the price of a phone by 20%. How much can one pay for it if the original price was Sh. 150,000?

21. Solve the inequality: 2x - 3 > 5.

22. Add: 27.6 + 8.43

23. The average age of 5 girls is 16. Calculate their total age.

24. Express 3,500 metres into Kilometres.

25. Divide: 9.6 by 3.

26. Reduce $\frac{21}{84}$ to its simplest form.

27. If a bus carries 80 children when going for a study trip. How many such buses will be needed to carry 320 children?

28. Determine the square root of $2^{1}/4$

29. In a basket of 15 oranges, 3 of the oranges are rotten. What is the probability that Tom can pick a good orange?

30. In a class of 50 pupils, 20 pupils eat Meat(M) and (F) pupils eat Fish while 15 pupils eat both dishes. Draw a venn diagram to show the above information and find the number of pupils who eat fish only?

END

SECTION(A)

Paper Three(1-30)

1.Subtract 0.3 from 3

2.Solve for x: $2x + 5 = 17$

3. If set A = {b,o,x} and set B = {o,x,e,n}. Find set $(B - A)^{I}$.

4. Find the square root of 0.09

5. Using a ruler, pencil and a pair of compasses only, construct a regular hexagon of radius 3cm.

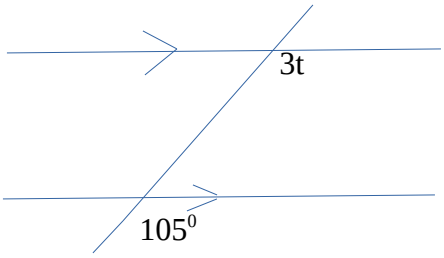
6. Find the LCM of 6, 8 and 10.

7. Write in figures, One million eleven thousand four.

8. The probability that you will pass a Mathematics test is $\frac{2}{7}$. What is the probability that you will fail the test?

9. A bus left Jinja at 11:15 am and arrived at Soroti at 2:30 pm. Calculate taken travelling.

10. Find the value of angle marked '***t*** ' in the figure below.



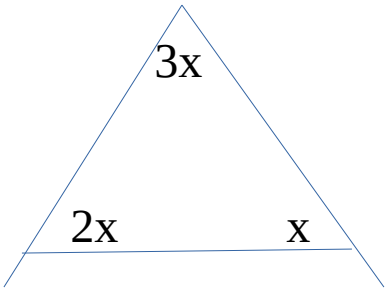
11. Multiply 1.48 by 1.2

12. Find the next number in the sequence: 1,4, 9, 16,25,_____

13. Change 2500ml to litres.

14. In Royal Grammar School,there are 81 girls and 27 boys in a P. 7 class. Express this information in a ratio form in its simplest form.

15. Use the figure below to find the find value of x;



16. Find the mode of 7, 9,6,4,0,6 and 6.

17. Name the month of the year with less than 30 days.

18. Express 0.2727... as a common fraction.

19. Find the value of ***r*** in $24_{\mathbf{r}} = 42_{\text{five.}}$

20. The school bursar went to the bank and withdrew five thousand shilling notes numbered from AH 10100 to AH 20200. Calculate the total amount of money withdrawn?

21. Work out: $2^4 \times 2^2 \div 2^3$

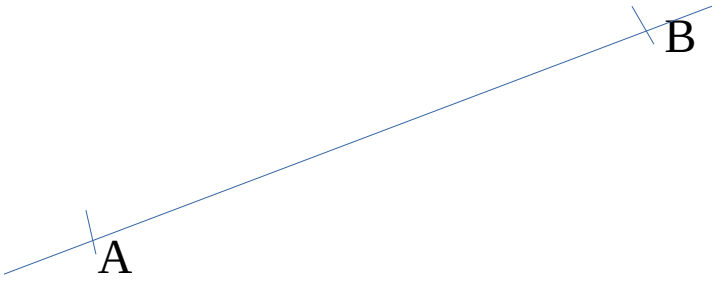
22. Find the complement of $11^{0.}$

23. What is the simple interest of on Sh.24,000 for 2½ years at 4% per year?

24. Draw a venn diagram to show $A \cap B = B$.

25. A dress which was costing Sh.40,000 was reduced by 10%. Calculate the new price of the dress.

26. Construct a perpendicular bisector on the line segment AB below



27. Multiply $\frac{2}{5}$ by 1½

28. Convert 2¼ hours to minutes.

29. I think of a number, add three to it and multiply the result by two. The answer is 16, what is the number?

30. Draw an angle of 65^0 in the space below.

END

SECTION(A)

Paper Four(1-30)

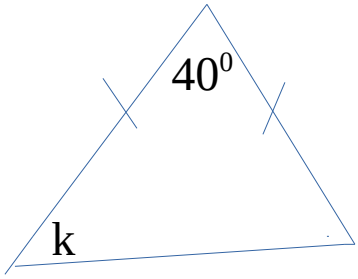
1.Add:14.7 + 6.48

2. Solve for m: 10 - 4m = m

3. Simplify: 10 + 10

4. Find the value of 2 + 4 = ___(Finite5)

5. What is the size of angle marked ***k***



6. If set M = {2,3,5,7,11} and set P = { 0, 2,4,6,8}. Find n(M∩P)

7. Given that; a = 2, b = 5 and c = 3. Evaluate: $\frac{5a - 2b}{b}$

8. Work out: $11^7 \div 11^5$

9. What is the square root of $1\frac{57}{64}$

10. Write 54 in Roman numerals.

11. Simplify: $\frac{1}{4} + \frac{1}{5}$

12. A builder mixed Blue and Yellow powder in the ratio 3:2 respectively. If the total weight of the paint was 25kg, What was the weight of the Yellow paint in kilograms in the mixture?

13. Tom's salary was increased from Sh. 400,000 to Sh. 450,000. What was the percentage increment?

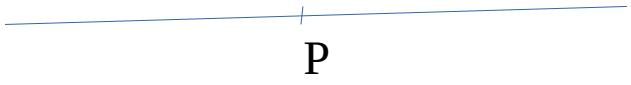
14. Find the next number in the sequence; 1,3,5,7,___

15. Change 10101_{two} to a decimal base.

16. Five books cost Sh.15,000. Find the cost of 11 similar books?

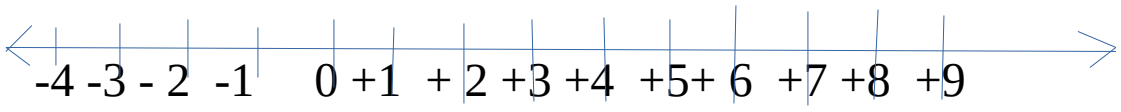
17. Write 18 00hrs in a 12 hour clock system.

18. Using a pencil, ruler and a pair of compasses only, construct an angle of 60^0 at point P.



19. Round off 9.9 to the nearest whole number.

20. Show $^{-}3 + {}^{+}5$ on the number line below

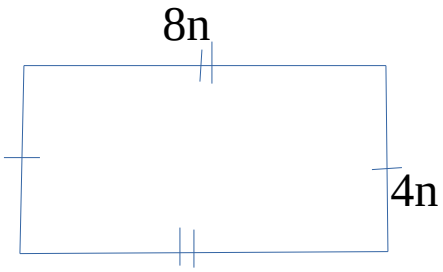


21. If $\frac{2}{5}$ of the money is Sh.30,000. What is the total amount of money?

22. Find the median of the following numbers: 7, 1,9, 0 and 5.

23. Give the solution set for the inequality: $1 < x < 7$.

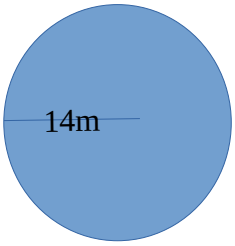
24. Find the value of ***n*** in the figure below if its perimetre is 48cm.



25. Change 2:30p.m to 24 hour clock system.

26. Solve: $3x^2 = 147$.

27. Calculate the area of the figure below;



28. The average speed of a bus is 180km/hr. How long does it take to cover a distance of 480km at the same speed?

29. Reduce to its simplest form $\frac{12}{27}$.

30. Find the mean of 42kg, 24kg and 33kg.

END

SECTION(A)

Paper Five(1-30)

1. Multiply: 435 x 5.

2. Express 7.5km in metres.

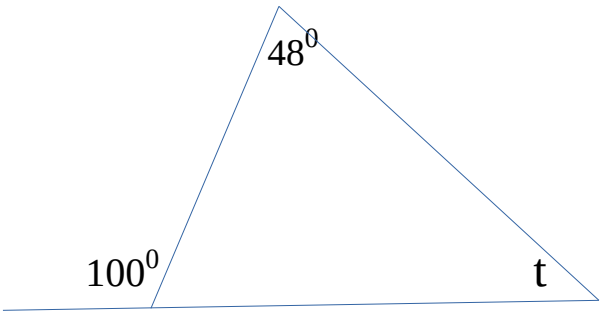
3. Simplify: $^{+}7 - {}^{-}8$

4. Subtract (2x + 3) from (3x - 2)

5. Write 94 in Roman numerals.

6. A box 6 red pens and 8 blue pens. What is the probability of picking red pen at random?

7. In the diagram below, find the size of angle marked ***t***



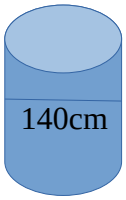
8. "P" and "Q" are sets. Draw a venn diagram to show that set $(P \cap Q)=Q$.

9. Text books Sh.4,600, Sh.7,200 and Sh.5,600 each. What balance do I get from a twenty thousand shilling note if I buy a copy of each book?

10. Express 7 in a binary system.
11. Mukisa scored the following marks in a Mathematics test; 70, 35, 40, 90 and 50. What was his median score?

12. Using a ruler,pencil and a pair of compasses only, construct an angle of 45^0 in the space below.

13. Calculate the volume of the cylinder below:



14. Write in figures: "Twenty eight thousand forty two.

15. It took Mr. Okello 2¼ hours to walk a distance of 27km. What was his average speed?

16. Divide 4½ by 2¼.

17. Give that x = 5 and y = 3. Find the value of 3x - (y + 2x)

18. In a class of 48 pupils, girls are three times the number of boys. How many boys are in the class?

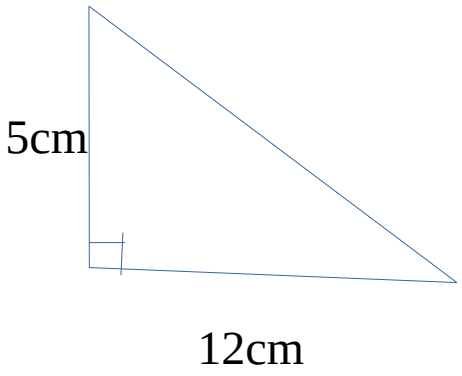
19. What is the smallest number which is exactly divisible by 8 or 12 leaving no remainder?

20. Mr. Elimu goes for lunch everyday after teaching. If he leaves school at 12:30p.m and takes 1½ hours from the time he leaves

schools to the he begins the afternoon lesson . At what time does the afternoon lesson begin?

21. 25% of a number is 100. What is the number?

22. Below is diagram of a right-angled triangle. Find the length $\overline{AC}$.



23. What simple interest does Sh.40,000 yield in 9 months if the offers an interest of 5% per annum?

24. A piece of work can be done by 6 men in 4 days. How many men will be needed to do the same piece of work in 3 days?

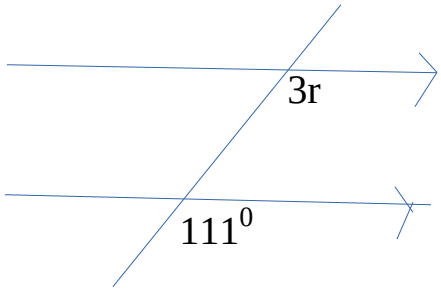
25. Calculate the square root of 0.16

26. The average weight of 3 parcels is 6kgs. Two of them weigh 5kgs. Find the weight of the third parcel?

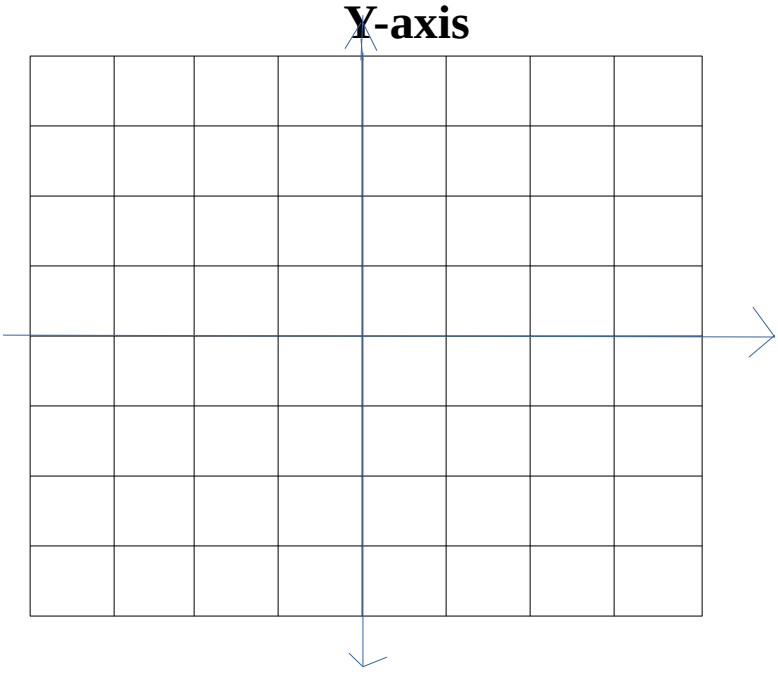
27. Find the perimetre of the semi-circle whose diametre is 2.8dm.

28. What is the size of each exterior angle of a regular pentagon?

29. Find the value of the angle marked ***r***



30. Plot the point K($^{+}2$, $^{+}2$) on the grid below;



END

SECTION(A)

Paper Six(1-30)

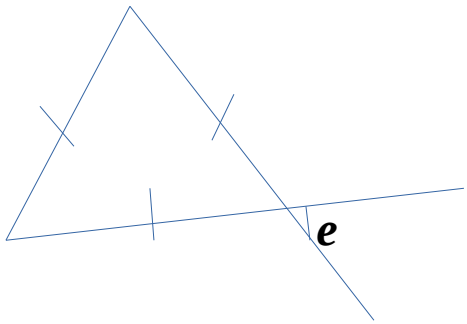
1. Multiply 6 by 4 using repeated addition.

2. Solve for p if 24 - p = 5p

3. Write CV in words.

4. Write: "Five hundred thousand, six hundred forty eight" in words.

5. Determine the value of ***e*** in degrees.



6. Ms. Nakato paid Sh.24,000 for four text books. How much will Mr. Okello pay for five such similar books ?

7. Divide $15a^3$ by $3a^2$

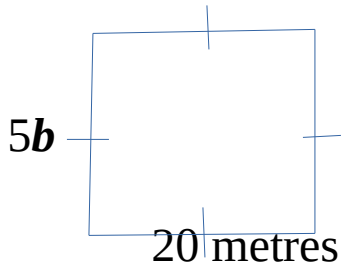
8. After covering a quarter of the journey, teacher Rose still had 15km to cover. How long was the journey?

9. Calculate the perimeter of a circle whose major chord is 14dm.

10. Using a dial, work out 4 + 5 = ___(modular 6)

11. Write 33 in an octal base.

12. Find the value of ***b*** in the regular polygon below,



13. Convert 0.6 as a common fraction.

14. Calculate the supplementary angle to 144^0

15. Prime factorize 36 and give your answer in set notation.

16. Express 8:30 am in a twenty four hour clock system.

17. Work out 9 × 3 + 3.

18. On the venn diagram below, shade $(R \cap T)^I$

19. Find the next number in the sequence; V, X, XV, XX, XXV, ____

20. Simplify: $^-9 - ^-4$

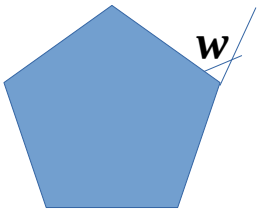
21. Express 26dm in cm.

22. What is the value of 9 in 32946?

23. Given that p*q means 2p + q. Find the value of 12*6.

24. Shade ⅔ of the diagram below;

25. The diagram below is part of a regular polygon. Find the size of marked ***w*** in degrees.



26. Mr. Brown is 4 years older than Mr. Black. If their total age is 22 years. How old is Mr. Brown?

27. Calculate the simple interest on Sh.36,000 at 6% per month for 4 months.

28. Uganda Cranes will have a friendly match with Kenya FC next week. What is the probability that it will win the match?

29. Solve for n: $3n < 12$.

30. Find the range of 14, 0, 19 and $^{-}3$.

END

SECTION(A)

Paper Seven(1-30)

1. Divide 12 ÷ 4 using repeated subtraction.

2. Simplify: $3^2 + 3^0$.

3. Alex rode a bicycle from his home to school at 8km/hr for 15 minutes. How far is it from his home to school?

4. Expand 196 using exponents.

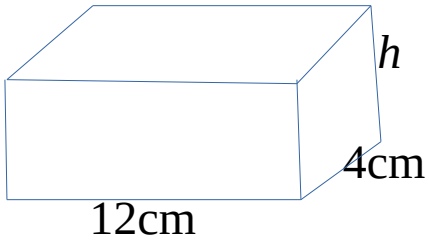
5. Write 1½ : 5 in its simplest form.

6. Add: 4.5 + 2.4

7. Evaluate: 3z + 2w when w = 6 and z = 7.

8. A pair of shoes costs $50 and each dollar valued at Ugsh.3,600. How much does one pay for such a pair of shoes in Uganda currency?

9. The volume of the cuboid below is $336cm^3$. Find the value of ***h***.



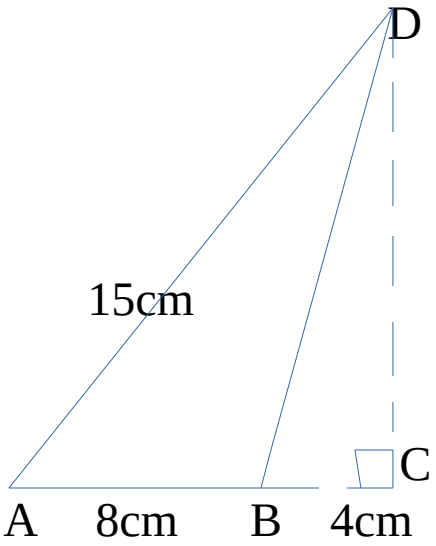
10. Using a ruler, pencil and a pair of compasses only, construct an angle of 75^0

11. A test which lasted for 1 hour 20 minutes started at 9:50am. When did it end?

12. Draw a venn diagram to show that; All boys(B) are males(M).

13. Using a number line, work out $^{-}7 - {}^{-}4$.

14. Calculate the area of the triangle ABD in the diagram below:



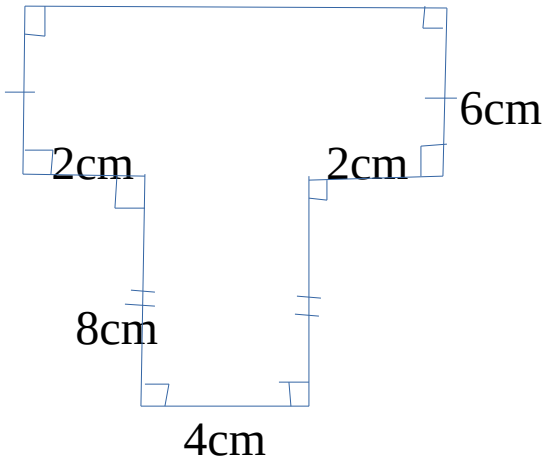
15. Find the size of each centre angle of a regular duodecagon.

16. Work out the mean of ½, ¼, and ¾.

17. Solve for ***b;*** $3b - 1 \geq 11$

18. In a class of 50 pupils, there are 12 more girls than boys. How many girls are in the class?

19. In the figure below; find the perimetre.



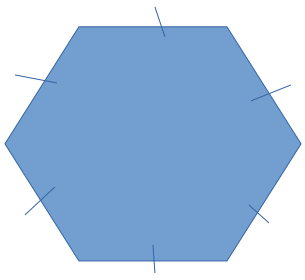
20. In the line of boys, Devian is 7th boy from either side. How many boys are in the line?

21. The cost of a pen is twice that of a book. If the book costs Sh.1,500, find the cost of 2 books and a pen?

22. A radio needs batteries of a total of 12 volts. Each dry cell is 1.5 volts. How dry cells does the radio use?

23. Express 15dm as a percentage of 2m.

24. Draw all lines of folding symmetry in the shape below;



25. A book shelf is 20cm thick. If books 5mm thick each are to be packed in this shelf, how many books were fitted there?

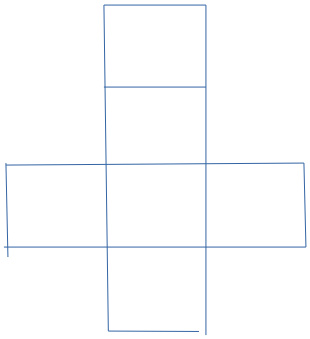
26. The range of numbers is 14 and the biggest number is 9. Find the smallest number.

27. Each bench in a hospital can accommodate 9 adults. How many benches are needed for 72 adults?

28. The minute hand of a clock is 7cm long. Find the distance its tip goes through in 15 minutes(Take π as $\frac{22}{7}$)

29. Subtract 2p - 9 from 15p.

30. Name the prism whose net is shown below;



SECTION(A)

Paper Eight(1-30)

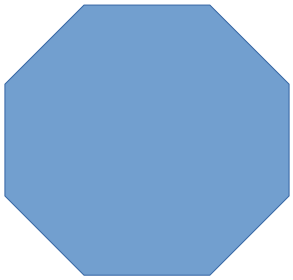
1.What is the place value of 6 in 369?

2. Subtract: 100
   - 11
   ———

3. Solve for p: 27p =9

4. A set has 32 subsets. Find the number of members in the set.

5. How lines of folding symmetry has the figure below.



6. Write 13.26 in words.

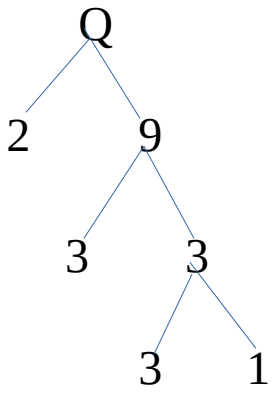
7. The average of 5, 6, 7 and n is 6. Find the value of n.

8. Increase 60kg in the ratio 3:2

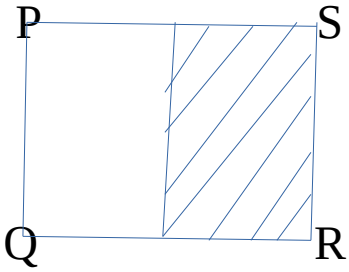
9. Express 1.9 tonnes to kg.

10. Find the next two in the sequence;
    13, 14, 16, 20,28,____,____.

11.Find the value of Q



12. The area of the square PQRS is 64cm^2 Find the perimetre of the shaded portion if it has bisected the original figure.



13. Arrange the following fractions in ascending order; ¾, ⅔,½,¼ and ⅓.

14. Convert 16_{nine} to quinary system

15. A wire of length 132m is made into a circle. Find its radius.
(Take $\pi = \frac{22}{7}$)

16. Diana is 12 years old and Emma is 6 years older than her. Find their total age.

17.Given that; P + 6 = 6 + P. State the property used.

18. A forty minute lesson ended at 9:10am. When did it start?

19. Calculate the square of 9.

20. Work out the sum of the prime numbers between 50 and 60.

21. Remove the brackets and simplify; 2(r +4) - 3(r - 4).

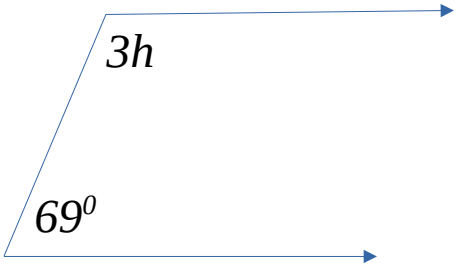
22. In the space below, draw $\overline{RP}$= 6cm and bisect it.

23. The cost of painting 2 square metres of a wall is Sh.2,500. Find the cost of painting a wall measuring 24m by 20 m.

24. Express 5m/sec in km/hr.

25. A dice is rolled once. What is the probability that a multiple of 3 shows on top?

26. Find the size of angle marked ***h***

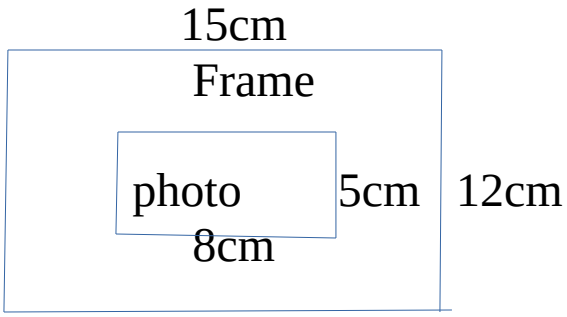


27. Simplify; ¾ - ⅜

28. Expand 32.4_{five} using powers .

29. Find the least number of pencils that can either be shared by 9 pupils or 8 pupils and 3 pencils remain.

30. Work out the area of the frame left uncovered by the photo in the figure below;



END

SECTION(A)

Paper Nine(1-30).

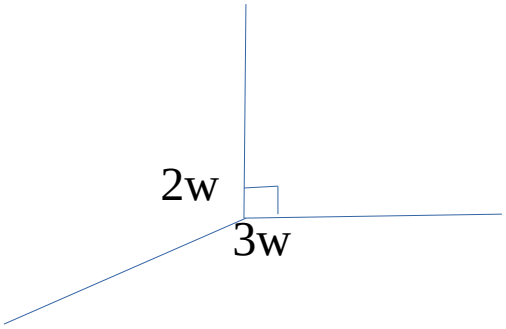
1. Add: 4 + 0.9

2. In a class of 32 students, eight of them are boys and the rest are girls. Express the number of girls as a percentage of the whole class.

3. Given that set A = { 1, 2, 3, 4, 6, 9}, D = { 3, 6, 9, 12, 15}.
   Find $n(A \cap D)^{I}$

4. Divide ¾ by ¼

5. In the diagram below, Calculate the value of the unknown.



6. Subtract 4g - 5 from 6g - 6.

7. Using a ruler, pencil and a pair of compasses only, construct an angle of 105^{0} in the space below.

8. The area of a face of a cube is $9cm^{2}$ Determine the volume of that cube.

9. Calculate the measure of each interior angle of a regular decagon.

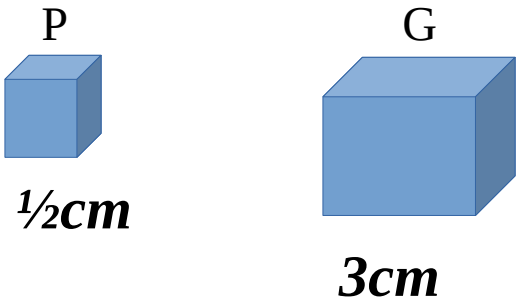
10. How many proper subsets will be formed from all composite numbers between 10 and 20?

11. A bird flies in 10 minutes to find its nest after its leisure time. If it covers 30km in every hour, how far did was its flight?

12. Digits 3,7 and 2 are used to form three digit numbers. What are the numbers formed?

13. If 40% of the pupils in a P. 7 class are girls and the rest are boys. How many pupils are in the class if there are 20 girls?

14. Small cubes P are packed into the big cube G. How many cubes P were fitted altogether?



15. Express 9876 in standard form.

16. Use the distributive property to simplify; (9 x 13) + (9 x 7)

17. Evaluate $16^{\frac{1}{2}} - 10^{0}$

18. If it takes 9 men in 12 days to slash along Kamuli Road. How long will it take 6 men working at the same rate?

19. What number has been expanded to get; $(3 \times 10^2) + (4 \times 10^0) + (6 \times 10^{-1})$?

20. Draw a net of a Tetrahedron in space given below.

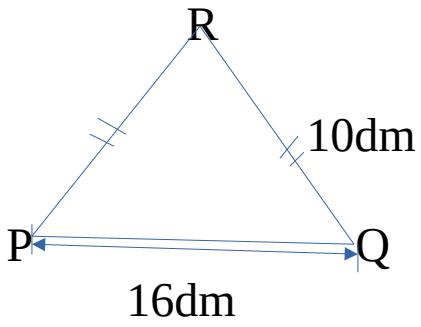
21. Calculate the total distance around a semi-circular flower garden of diameter 20 metres.

22. Write 99 in Roman numerals.

23. Express ⅛ as a decimal.

24. Solve for e; $7 - e \geq 3$.

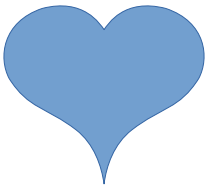
25. In the figure below, find the area of the triangle PQR;



26. The complement 0f 39^0 is $(v + 11)^0$. Find the value of v.

27. Change 9:06pm to a 24 hour clock system.

28. In the shape below, draw all the possible lines of folding symmetry which can be formed.



29. Work out;

	Hrs	Min
	4	15
-	1	35

30. Princess Diana bought a party dress at Sh. 24,000 and later sold it to Samali making a profit of 12½%. How much did Samali pay for the party dress?

END

SECTION(A)

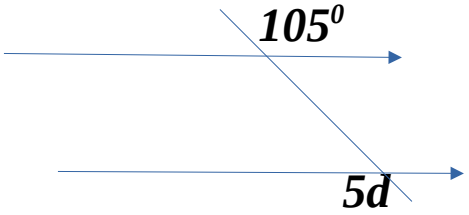
Paper Ten(1-30).

1. Write CXLV in words.

2. Evaluate $(0.12)^2$.

3. Subtract ⅞ - ⅓.

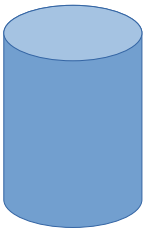
4. Study the diagram below and find the value of ***d***



5.Simplify; $^{-}7 + {}^{-}3$

6. In a class of 42 pupils, $\frac{1}{3}$ are boys and $\frac{3}{7}$ of the girls have not paid school fees. How many girls have paid school fees?

7. Draw a net for the solid figure below;



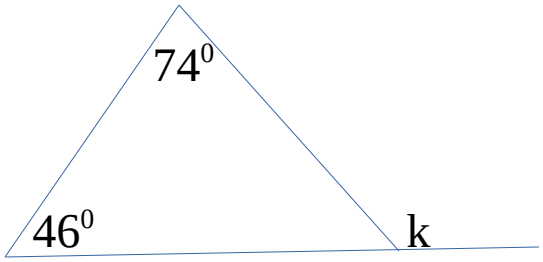
8. Express 0.00042 in standard form.

9. Use the distributive property to simplify; (9 x 13) + (9 x 7).

10. Convert 9.4km to Dm.

11. Twelve boys can slash a compound in 9 days. How many more days will it take for 8 men to do the same job at the same rate?

12. Find the size of the angle marked k



13. John, Juma and James shared a piece of sugar cane which had 18 nodes in the ratio of 1:2:3 respectively. How many nodes did each get?

14. Given that m*n means 3m + 2n. Find the value of 8*3.

15. Work out $\frac{0.2 \times 1.8}{0.03}$

16. Using a pencil, ruler and a pair of compasses only, construct an angle of 150^0.