"Thurstan College, being unshaken amidst the COVID 19 challenges"

Series of Supportive Activities

Grade 11 - Mathematics

THURSTAN COLLEGE

COLOMBO 07

Thurstan College, being unshaken amidst the COVID 19 challenges

Series of Supportive Activities

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Real Number

1. Represent the set of counting numbers by using curly brackets.

2. Express the set of positive intigers by using symbols.

3. Express the set of negative intigers by using symbols.

4. Express the set of irtigers by using symbols.

5. Express the set of real numbers by using symbols.

6. What are the rational numbers?

7. Express the rational numbers by using symbols.

8. Give an exaple for rational numbers.

9. What are the irrational numbers ?

10. Give an example for irrational numbers.

11. What are the real numbers ?

12. Give example for finite decimals.

13. Give example for recurring decimals.

14. Seperate the finite decimals an recarring decimals.

$\frac{3}{5}$, $\frac{2}{7}$, $\frac{5}{12}$, $\frac{11}{3}$, $\frac{10}{9}$, $\frac{8}{7}$, $\frac{17}{5}$, $\frac{19}{7}$, $\frac{13}{4}$

15. Seperate the given numbers into rational and irrational.

$\sqrt{3}$ $\sqrt{16}$ $\sqrt{7}$ $\sqrt{21}$ $\sqrt{8}$ $\sqrt{13}$ $\sqrt{15}$ $\sqrt{20}$

Rational	Irrational

16.Express as a surd.

i. $\sqrt{8}$

ii. $\sqrt{27}$

iii. $\sqrt{50}$

iv. $\sqrt{48}$

v. $\sqrt{63}$

vi. $\sqrt{73}$

vii. $\sqrt{99}$

viii. $\sqrt{125}$

ix. $\sqrt{300}$

x. $\sqrt{450}$

17.Express as an entire surd.

i. $3\sqrt{2}$

ii. $2\sqrt{5}$

iii. $7\sqrt{3}$

iv. $5\sqrt{5}$

v. $3\sqrt{6}$

vi. $11\sqrt{3}$

vii. $9\sqrt{2}$

viii. $8\sqrt{3}$

ix. $13\sqrt{3}$

x. $10\sqrt{2}$

18.Simplify.

i.$5\sqrt{2} + 3\sqrt{2}$

ii. $2\sqrt{3} - 7\sqrt{3}$

iii. $+ 3\sqrt{5} + 2\sqrt{5}\sqrt{5}$

iv.$\sqrt{211} + \sqrt{28} - \sqrt{2}$

v.$8\sqrt{11} + 5\sqrt{11} - 2\sqrt{11}$

vi.$11\sqrt{73} - \sqrt{7} - \sqrt{7}$

vii. - $5\sqrt{2}$ + $2\sqrt{3}\sqrt{3}2\sqrt{2}$ +

viii.$4\sqrt{53}$- $\sqrt{38}$ + $\sqrt{32}$ - $\sqrt{5}$

ix. - $9\sqrt{2}\sqrt{7}3\sqrt{7}$ + $5\sqrt{2}$ -

x.$2\sqrt{35}$ - $\sqrt{53}$ + $\sqrt{3}$ - $\sqrt{5}$

19.Simplify.

i. $\sqrt{8}$ + $\sqrt{18}2\sqrt{2}$ -

ii. $\sqrt{75}$ - $\sqrt{27}$ + $3\sqrt{12}$

iii. $\sqrt{28}$+$\sqrt{112}$ - $\sqrt{63}$ $\sqrt{20}$

iv. $\sqrt{500}$ - $\sqrt{80}$ -

v. $\sqrt{24}3\sqrt{6}$ - $\sqrt{216}$+$\sqrt{294}$ -

20.Simplify.

i. $2\sqrt{24} + 3\sqrt{3}$

ii. $3\sqrt{50} + 2\sqrt{125}$

iii. $5\sqrt{108} - 2\sqrt{3}$

iv. $2\sqrt{48} - \sqrt{3} + 2\sqrt{27}$

v. $5\sqrt{40} + 2\sqrt{160} - 2\sqrt{10}$

21. Rationalize the deomenator.

i. $\frac{2}{\sqrt{3}}$

ii. $\frac{5}{\sqrt{2}}$

iii. $\frac{12}{\sqrt{5}}$

iv. $\frac{8}{\sqrt{11}}$

v. $\frac{5}{2\sqrt{3}}$

vi. $\frac{22}{3\sqrt{7}}$

vii. $\frac{\sqrt{2}}{3\sqrt{3}}$

viii. $\frac{5\sqrt{11}}{3\sqrt{3}}$

ix. $\frac{2\sqrt{5}}{3\sqrt{2}}$

x. $\frac{15\sqrt{2}}{2\sqrt{5}}$

22.Simplify.

i. $2\sqrt{5} \times 3\sqrt{2}$

ii. $5\sqrt{2} \times 2\sqrt{2}$

iii. $3\sqrt{7} \times 2\sqrt{2}$

iv. $7\sqrt{3} \times 3\sqrt{7}$

v. $9\sqrt{5} \times 3\sqrt{3}$

vi. $4\sqrt{7} \times 2\sqrt{5}$

vii. $\frac{2}{3\sqrt{12}}$

viii. $\frac{3\sqrt{5}}{\sqrt{125}}$

ix. $\frac{10\sqrt{3}}{\sqrt{27}}$

x. $\frac{7\sqrt{7}}{\sqrt{112}}$

Logarithms and Indices

1. Simplify and evaluate.

i. $2^4 \times 2^3$ =

ii. 2^2 X 3^2 X 2^4 X 3

iii. $\frac{7^2 \times 7^6}{7^3}$ =

iv. $\frac{2^5 \times 5^4}{2^2 \times 5^2}$ =

v. $\frac{(2^3)^2}{16}$ =

vi. $\frac{(3^2)^3 \times 2^4}{3^4 \times (2^2)^2}$

vii. $\frac{2^4 \times (2^2)^3 \times 3^2}{(2^3)^2 \times (3^2)^2}$

2. Simplify.

i. $x^2 \times x^5$ =

ii. $a^3 \times a^5 \times a^5$ =

iii. $(-x^2) \times (-x^2) \times (-x^2)$ =

iv. $(2x)^3$ =

v. $(2x^3) \times (3y^4)$ =

vi. $(-4p)^2 \times (3q)^3$=

vii. $(6p^2) \times (3q)^3$ =

viii. $(2x)^2 \times (-3x^2)^2 \times (xy)^2$ =

3. Evaluate.

i. $25^{½}=$

ii. $64^{2/3}=$

iii. $125^{2/3}=$

iv. $32^{2/5}=$

v. $625^{3/4}=$

vi. $(27)^{-1/3}=$

vii. $(-32)^{-3/5}=$

viii. $(\frac{4}{9})^{-1/2}=$

ix. $(-\frac{8}{27})^{2/3}=$

x. $(\frac{16}{81})^{-2/4}=$

4. Express in radical form.

i. $x^{1/2}$

ii. $x^{1/3}$

iii. $x^{2/3}$

iv. $x^{3/5}$

5. Express the given indices with positive indices.

i. x^{-2}

ii. 2^{-5}

iii. y^{-3}

iv. $(\frac{1}{2})^{-1}$

v. $(\frac{2}{3})^{-2}$

vi. $\frac{1}{2^{-3}}$

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

viii. x^{-2}_{4}

ix. $(\sqrt[5]{p})\,\bar{}_{3}^{1}$

x. $3\sqrt[3]{x} - 3$

6. Evaluate.

i. $\sqrt{49}$

ii. $\sqrt{81}$

iii. $(\sqrt{64})^{\frac{-1}{2}}$

iv. $(\sqrt[3]{27})^{-2}$

v. $\frac{1}{(\sqrt{16})^2}$

vi. $\frac{1}{\sqrt[3]{125)^{-2}}}$

vii. $3\sqrt{\frac{8}{27}} \times (\sqrt{4})^{-5}$

viii. $(\sqrt[5]{\frac{32}{243}})^{3}$

ix. $(\sqrt[3]{-27})^2 \times (\sqrt{4})^{-5}$

x. $(\sqrt[3]{125})^2 \times (\frac{27}{49}) \times \frac{1}{5}$

7. If p = $t_2^1 + t_2^{-1}$ and q = $t_2^1 - t_1^{-1}$ the find the p value of $p^2q^2 + 2$

8. Solve the given equation.

i. $2^x = 16$

ii. $3^x = 81$

iii. $2x^2 = 18$

iv. $2x^3 = 16$

v. $x^{2x-1} = 32$

vi. $3^{x+1} = 243$

vii. $4x^2 = 9$

viii. $125x^3 = 27$

ix. $8^x = 16$

x. $27^{2x-1} = 81$

xi. $9^{3-2x} = 27$

xii. $49^x = \frac{1}{343}$

xiii. $5x^3 = 40$

xiv. $(2x-1)^2 = 36$

xv. $2(2x-1)^2 = 18$

xvi. $2^{2x+1} - 8(2^x) = 0$

Xvii. $(-2)^{5x} = -32$

xviii. $16^{x-1} = \frac{1}{8}$

9. Evaluate.

i. $\log_4 64$

ii. $\log_3 27$

iii. $\log_5 625$

iv. $\lg 1000$

v. $3\log_2 32$

vi. $5\log_6 216$

vii. $\log\left(\frac{1}{27}\right)$

viii. $\log_{5(}\frac{1}{125})$

ix. $\log 0.01$

x. $\frac{2}{3}\log_3 27$

xi. $2\log_5 \sqrt{5}$

xii. $(\frac{1}{2}\log 100)^3$

xiii. $2\log_5 \sqrt[3]{125}$

xiv. $3\log_7 \sqrt{49}$

xv. $\frac{1}{2}\log_4 0.25$

10. Evaluate.

i. $\log_2 16 - \log_2 9$

ii. $\log_5 125 - \log_2 4$

iii. $\log_4 64 + \log_2 81$

iv. $\log_2 64 - \log_5 25$

v. $\log_2 4 - \log_3 9$

vi. $12\log_5 125 - \log_6 36$

vii. $2\log_3 9 - 3\log_5(\frac{1}{25})$

viii. $\log_9 81 - \log_6(\frac{1}{216})$

ix. $\log_3 24 - \log_3 8 + 2\log_3 3$

x. $\frac{1}{2}\log_5 169 - \log_5 15 + \log_5 75$

xi. $3\log 5 - \frac{1}{2}\log(\frac{1}{16}) + \log\frac{1}{5}$

Indices and logarithms

1. Find the logarithmic value of following numbers.

i. 124.7 =

ii. 970.5 =

iii. 207.8 =

iv. 84.52 =

v. 70.26 =

vi. 5.084 =

2. Simplify using logarithmic table.

i. 24.73×105.3

ii. 8.579×1275

iii. $114.5 \times 23.81 \times 5.837$

iv. $11.54 \times 21.55 \times 8.723$

v. $\frac{54.78}{1.754}$

vi. $\frac{125.6 \times 1.098}{24.19}$

3. Find logarithmic value of following numbers.

i. 0.07351

ii. 0.004537

iii. 0.2009

iv. 0.001091

v. 0.003541

vi. 0.00003127

4. Evaluate.

i. $\log_{10} 0.5731=$

ii. $\log_{10} 0.9073=$

iii. $\log_{10} 0.05069=$

iv. $\log_{10} 0.0007622=$

v. $\log_{10} 0.001005=$

vi. $\log_{10} 0.00003353=$

5. Write in general form.

i. $3.527\times 10^{-3}=$

ii. $2.7831\times 10^{-2}=$

iii. $4.0801\times 10^{-3}=$

iv. $5.5797\times 10^{-4}=$

v. $6.0606\times 10^{-3}=$

6. Find the anti-logarithm of following numbers.

i. $\bar{2}.5215$

ii. $\bar{1}.3712.$

iii. $\bar{3}.2437.$

iv. $\bar{2}.0048.$

v. $\bar{4}.1897.$

vi. $\bar{3}.5501.$

7. Evaluate.

i. antilog $\bar{1}.5073$ =

ii. antilog $\bar{2}.0798=$

iii. antilog $\bar{2}.9057=$

iv. antilog $\bar{3}.2117$ =

v. antilog $\bar{3}.0069=$

vi. antilog $\bar{2}.7000$ =

8. Simplify.

i. $+ 0.5732\bar{1} = 9007.$

ii. $+ 1.3473\bar{2} = 0987.$

iii. $+ 1.8761\bar{2} = 6301.$

iv. $+ 0.5307\bar{1} = 8109.$

v. $+ 2.4723\bar{3} = 1501.$

vi. $- 1.6091\bar{1}. = 3214$

vii. $- 0.4327\bar{2} = 2731.$

viii. $- 1.2753\bar{1} = 6401.$

ix. $- 1.4087\bar{2} = 0975.$

x. $- 1.5429\,\bar{2} = 9853.$

9. Simplify

i. $+ 1.8701\bar{2} = 2.5001 + 6193.$

ii. $+ 2.2357\bar{3} = 0.5373 + 8469.$

iii. $+ 2.5409\bar{1} - 6351.\bar{1} = 9327.$

iv. $- 0.9237\bar{1} + 4351.\bar{1} = 9325.$

v. $- 1.0479\bar{2} + 5427.\bar{1} = 3030.$

vi. $\bar{2}. - 6237\bar{1} = 0.3347 + 0425.$

10. Find the value of followings by using logarithmic table.

i. 4.635×0.2347

ii. 123.5×0.097

iii. 12.57×0.679

iv. 0.6067×0.9351

v. 0.8521×0.5273

vi. 0.09231×0.6720

vii. 0.704×0.007321

viii. 0.9259×0.5273

ix. 0.6275×1.6732

x. 27.65×0.1125

xi. $\dfrac{1.072 \times 0.5273}{0.01273}$

xii. $\dfrac{27.51 \times 0.4351}{0.1258}$

xiii. $\dfrac{58.43 \times 0.9705}{0.8861 \times 1.5732}$

xiv. $\dfrac{126.1 \times 1.007}{0.3431}$

11. Evaluate.

i. $\overline{1}.5231 \times 2$

ii. $\overline{2}6.0457 \times 3$

iii. $\overline{1}.9723 \times 2$

iv. $\overline{3}.5473 \times 3$

v. $\overline{2}.9321 \times 2$

12. Evaluate.

i. $1.5634 \div 2$

ii. $\overline{2}.9751 \div 5$

iii. $\overline{1}.5327 \div 2$

iv. $\overline{2}.0493 \div 3$

v. $\overline{1}.9734 \div 3$

vi. $\overline{3}.1473 \div 4$

Fractions

1. A father reserved $\frac{1}{5}$ of a land for himself and divided the remaining portion among his childrensuch that his son received $\frac{1}{2}$ of this portion and the rest was divided equally among the three daughters.

   i. What fraction of the total land is the extent of land divided among the children?

   ii. What fraction of the total land was received by the son?

   iii. What fraction of the total land is left to be divided among the three daughters?

   iv. If one daughter received 30 ha, find the area of the total land.

   v. If the value of the part kept by the father was Rs. 4.5 million, what is the value of the part received by a daughter?

2. Saman invests Rs. 80 000 to buy shares in a certain company. The market price of a share is Rs.40.

   i. How many shares can Saman buy?

   ii. If the annual dividend paid for a share is Rs. 4, find the annual income.

   iii. If the amount used to buy shares was deposited for one year in a fixed deposit at an annual interest rate of 12%, by how much would the income be greater than that from shares?

   iv. If the dividend income in the second year was greater by 50% than the income in part (ii) above, find the annual dividend paid for a share in the second year.

3. (a) A local authority charges 8% as rates for the properties in its area. For a property which has annual property value of Rs.25,000,

i. find the amount of the annual rates.

ii. find the rates to be paid per quarter.

(b) The next year the annual property value was increased by 20% and the rates percentage was decreased to 7%.

i. What is the new annual property value?

ii. Find the percentage by which the payable rates is increased due to the change made by the local authority.

4. (a)The initial part of a certain road is surfaced with tar. The tarred portion is $\frac{2}{7}$ of the entire road.$\frac{3}{4}$ of the rest of the road is made with concrete. The remaining part is covered with gravel.

i. Find which fraction of the entire road is the non tarred part.

ii. Find which fraction of the entire road is the concrete-laid part.

iii. Show that the concrete-laid part is three times the gravel- covered part.

iv. If the concrete-laid part is 225 m find the total length of the road.

Surface area and Volume of solids

1. (a) Show that the number of solid spheres of radius $2r$ that can be made by melting a 2.24 mlong uniform cylindrical solid metal rod of radius r cm is $\frac{21}{r}$

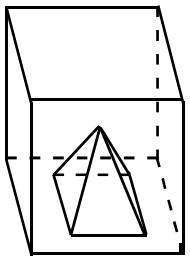
(b) Simplify $\frac{(3.275)^2 \times 0.654}{26.52}$ using the logarithms table and give the answer correct to two decimal places.

2. (a) Exactly half of a cylindrical tank of which the radius of the bottom is a and the height is $4r$ is filled with water. A solid cone of base radius r and height $2r$ was carefully dipped in the water in the tank without any spillage. Then if the total volume of the water in thetank and the cone is $\frac{26\pi r3}{3}$, find the base radius of the tank in terms of r.

(b) Find the value using the logarithms tables.
Give the answer to the first decimal place.

$$\frac{(1.475)^2 \times \sqrt{18.62}}{0.372}$$

3. A side of the base of the solid glass square pyramid is 12.35 cm. Height of it is 15 cm. This pyramid is carefully placed in a cuboid tank of 20 cm length and 16 cm width and filled with water. If the tank contained water to a certain height and the water level rose through a height of h, write an expression for h and find its value to the first decimal place using the logarithmic tables.



4. (a) The radius of the base of a solid cylinder is $2a$ and its height is $3h$.

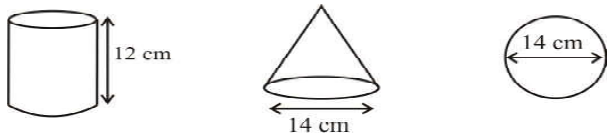
   i. Find the area of the curved surface of the cylinder in terms of π, a and h

ii. Indicate the volume of that cylinder in terms of π, a and h

(b) The radius of the base of a right circular cone is $2a$ and its height is $2a$. Find its volume in terms of π and a.

(c) i. If the cylinder and the cone are made of the same material, indicate the volume of the material from which the cylind er and the cone are made interms of π and a when $h = 2a$.

ii. The cylinder and the cone are melted and spheres of radius a are made without wastage. Find the number of spheres that are made.

5. 

The diagram shows a cylinder with a 14 cm base diameter and 12 cm height, a right circular cone, with half the height of the cylinder and with 14 cm base diameter and a sphere with 14 cm diameter.

i.What is the radius of the base of the cylinder?

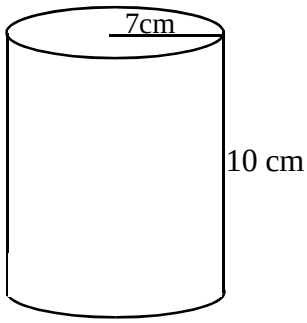
ii.Show that the ratio between the volume of the cylinder and the volume of the sphere is 9:7.

iii.Show that the slant height of the cone is $\sqrt{85cm}$

iv.Find the surface area of the curved surface of the cone using the logarithms tables.
(Take π= 3.14)

6.The diagram shows a cylindrical metal block of radius 7 cm and height 10 cm.
(Take $\pi = \frac{22}{7}$)

Find the area of the curved surface of the metal block.

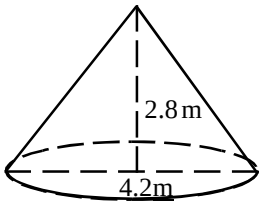


(i) Find the area of the whole surface of the metal block.

(ii) Calculate the volume of the metal block.

(iii) Find the radius of the cylindrical metal block of volume 6160 cm^3 whose height is equal to the height of the above metal block.

7.(a)A tent made by a group of scouts is shown in the diagram. It has the shape of a right circular cone. The diameter of the base is 4.2 m and its perpendicular height is 2.8 m.



i. Find the radius of the base of the tent.

ii. This tent is fully covered with canvas. Find the area of the canvas used for this in square meters.

(b)Find the value using the logarithms tables. $\frac{23.5\times(0.048)^{\frac{1}{3}}}{(3.824)^2}$

Algebraic Expressions

8.(a) $(a + b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$

Using the result,

i. expand $(a-1)^3$

ii. find the value of 105^3

(b) i. Factories

$6a^2x^2 - a^2x - a^2$

ii.Simplify

$$\frac{2}{(a-5)2} - \frac{3}{(5-a)}$$

8.(a) i. Simplify
$(x+1)^2 + 5(x+1) + 4$

ii.Factorise
$3x^2 + 11x + 10$.

(c) i. Simplify
$$\frac{1}{x-1} - \frac{2}{3(x-1)}$$

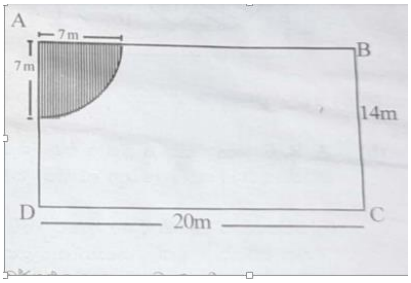
ii. Two parcels contain wood apple and beli fruits. First parcel contains 3 wood apples and 5 beli fruits. Second parcel contains 4 wood apples and 4 beli fruits. Indicate this information by a matrix and write the order of the matrix.

9.Solve
$$\frac{3}{a-2} - \frac{2}{a+2} = \frac{1}{a}$$

Area of plane figures

1.ABCD is rectangular plot of land owned by Saman. The leafy vegetable ‘ gotukola ’ has been grown is the shaded area which is a sector of radius 7m ( )

i. Find the length of the curved boundary of the section where gotukola has been grown.



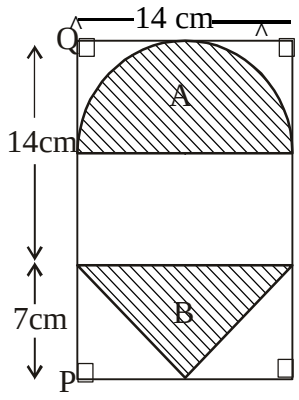
ii. What is the area of the section in which gotukola has been grown?

iii. What is the area of the remaining part of the land where gotukola is not grown?

iv. Saman plans to separate out a right-angled triangular plot of land so that its area is three times the gotukola grown area. If BC is to be one of its boundaries and the other boundary is to lie on DC,sketch the plot of land that can be separated out with measurements on the diagram given.

2.The diagram shows a wall hanger consisting of asemicircle(A) and a triangle (B) in a rectanglePQRS.

PQ = 21 cm and QR = 14 cm. (Take $\pi = \frac{22}{7}$)



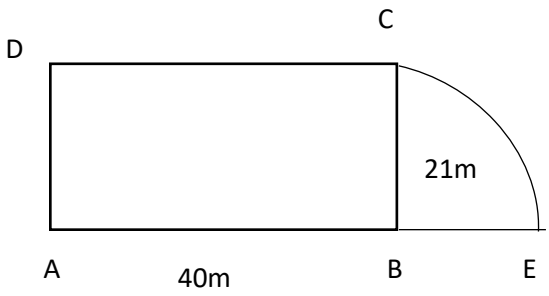
i. What is the perimeter of the semicircle A?

ii. Find the area of the semicircle A.

iii. Write the ratio of the areas of parts A and B and indicate it in the simplest form.

iv. It is required to add a rectangular band which is equal in area to part B to the wall hanger. Draw with measurements in the diagram how this band can be added with PS as a margin.

3.The diagram shows a land consisting of a rectangular part ABCD and a sector-shaped portion BEC attached to it. (Take $\pi = \frac{22}{7}$)



i. Find the area of the rectangular part ABCD.

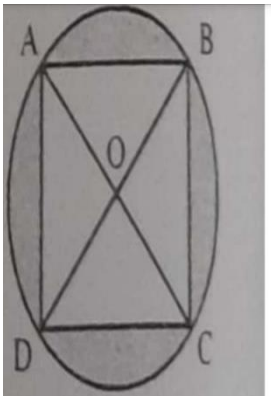
ii. Find the area of the sector shaped part BEC.

iii. Calculate the total cost to cement the floor area of BCE, if the cost for $1m^2$ is Rs.420.

iv. An 8m long portion at the middle of the boundary 'CD' is reserved for a gate. A right angled triangle shaped portion which is of $\frac{1}{4}$ the area of the rectangle ABCD is allocated to grow banana. One boundary of that should be either AD or BC and the gate should not be obstructed. Mark that triangle shaped portion with dimensions in the above diagram.

4.A square shaped exhibition camp was constructed on a circular plot of land of 70 m radius. The land is divided into four equal parts as shown in the diagram.

(Take$\pi = \frac{22}{7}$)



i. What is the angle at the centre of the sector shaped plot AOB ?

ii. Find the area of the sector shaped plot AOB.

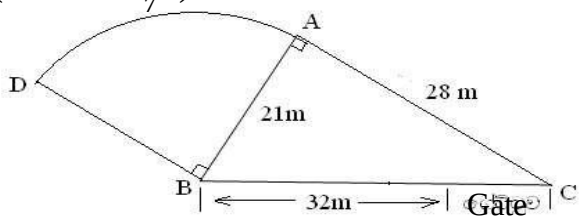
iii. What is the area of the triangular plot of land AOB belonging to the camp?

iv. Find the area of the shaded part not belonging to the camp.

v. What is the perimeter of the shaded part of the sector AOB? (Take $\sqrt{2}$ = 1.4)

5.The diagram shows a model farm prepared for an exhibition. It consists of a right angled triangle shaped plot ABC and a sector shaped plot ABD. (Take $\pi = \frac{22}{7}$)

i. What is the length of the arc AD?



ii. What is the cost incurred to build a fence around the total plot of land excepting the length reserved for the gate at the rate of Rs.50 per meter?

iii. Find the area of the plot ABD.

iv. If the organizers expect to allocate a larger area for vegetable cultivation which of the two sections should be selected?

v. Within this area, a rectangular office of area 35 m^2 has to be constructed so that it is boarded by parts of AB and AC. Length and width of this should be whole numbersand in metres. Draw a sketch of the office with dimensions fulfilling the above requirements.

Data distribution

1. The following frequency distribution indicates the amount of rice sold by a sales outlet on each day during 30 days of a month.

Amount of rice sold in a day (kg)	Number of days (f)
0 – 8	1
8 – 16	2
16 – 24	6
24 – 32	10
32 – 40	5
40 - 48	4

i. What is the modal class of this distribution?

ii. As there are 2 500 kg of rice in the store,the merchant assumes that the rice is enough for the period of three months (90 days) to come. On the basis of the mean of the amount of rice sold per day, decide with reasons whether the assumption of the merchant is acceptable or not.

2.Statistics of brooms produced per day by a certain producer last year are given below.

Class interval (No. of brooms)	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency (No. of days)	26	28	35	34	63	50	46	18

i. What is the modal class of this distribution?

ii. Considering the mid value of the 40-50 class interval as the assumed mean, calculate the mean of the number of brooms produced in a day to the closest whole number.

iii. Production cost of a broom is Rs.40 and he sells it at Rs.90. Show that the profit he gains within a month of 30 days exceeds Rs.60,000.00

3.Given below is the information regarding the tourists who came to a tourist hotel in year 2013.

No. of tourists	51-60	61-70	71-80	81-90	91-100	101-110	111-120
No. of days	2	4	8	10	12	8	6

i. What is the modal class ?

ii. What is the class interval that includes the median?

iii. Taking the mid value of the modal class as the assumed mean, find the mean of the number of tourists who visited the hotel in 2013.

iv. If for 50 days in 2012, the mean of the daily arrival of tourists was 80, show that the arrival of tourists has increased in 2013 by 12.5% compared to 2012.

4.A student has recorded the time he spent per day on computer games for a 30 day month. Given below is a frequency table which includes that information.

Time (Minutes)	16-24	24-32	32-40	40-48	48-56	56-64
No. of days	1	3	6	10	8	2

i. In which time interval was he engaged in the game for a maximum number of days?

ii. Find the mean time he was engaged in the game per day to the approximate minute.

iii. Find the time that can be expected to be wasted due to engagement in computer games during a 90 day school term.

iv. His mother says that the time wasted can be reduced by 20 hours within this three month period by reducing the play by 15 minutes per day. Explain its correctness or incorrectness giving reasons.

5.The table given below shows the scores of Pubudu who participated in a few cricket matches within the first nine months of the year.

Score (Class interval)	No. of matches (Frequaency *f*)
00 - 20	1
20 - 40	3
40 - 60	5
60 - 80	11
80 - 100	5
100 - 120	4
120 - 140	1

i. What is the class interval which includes the median ?

ii. Considering the mid value of the class interval having the median as the assumed mean, calculate the mean score of Pubudu.

iii. If Pubudu were to participate in 40 matches, what would be his expected total runs scored from all 40 matches?