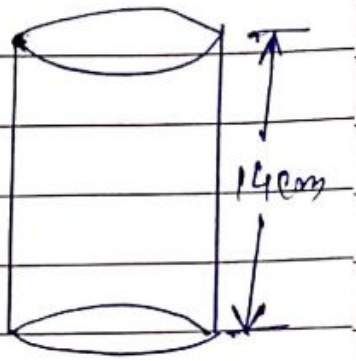
CLASS: IX A
SUB : MATHEMATICS
14-05-2020

H.W
Ex 13.2
Q.no. 3, 4 & 5

classmate
Date
Page

Ex - 13.2

1. Given: height of the cylinder, $h = 14cm$



$C.S.A = 88cm^2$

i.e $2\pi rh = 88\ cm^2$

$\Rightarrow 2 \times \frac{22}{7} \times r \times 14 = 88$

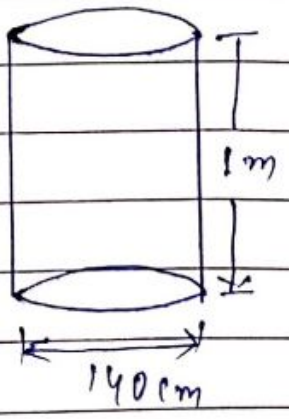
$\Rightarrow 88 \times r = 88$

$\Rightarrow r = 1\ cm$

Thus diameter of the base is $= 2r$
$= 2 \times 1 = 2cm$

2. Height, $h = 1m$

$r = \frac{d}{2} = \frac{140}{2} = 70cm$
$= 0.7m$



Area of Sheet required = T.S.A of the cylinder

$= 2\pi rh + 2\pi r^2$

$= 2\pi r(h + r)$

$= 2 \times \frac{22}{7} \times \frac{0.7}{10} (1 + 0.7)$

$= \frac{44}{10} \times 1.7 = 7.48m^2$

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CLASS: VIII (B, C & D)
SUB: MATHEMATICS
14-05-2020

Ex - 8.2

⑧ Marked Price of the T.V = ₹13,000
Sales tax = 12%

∴ S.P = MRP + 12% of Sales tax value

= ₹(13000 + 12% of 13,000)

= ₹(13000 + $\frac{12}{100}$ × 13000)

= ₹(13000 + 1,560)

= ₹ 14,560

Thus, to buy the T.V, vinod have to pay ₹ 14,560

NOTE: Sales tax is charged by the Govt. on the Sale of an ~~item~~ item.
It is collected by the Shopkeeper from the customer and given to the Government

The Price include the tax is also known as Value Added Tax (VAT).

H.W - Ex - 8.2 Q.no. 9 & 10 (NCERT)

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EXAMPLE 4 *Find the area of the shaded region in the given figure, where a circular arc of radius 6 cm has been drawn with vertex O of an equilateral triangle OAB of side 12 cm as centre.*
[Take $\sqrt{3} = 1.73$ and $\pi = 3.14$.]

SOLUTION Since ΔOAB is equilateral, we have $\angle AOB = 60°$.

Required area

= {(area of equilateral ΔOAB) + (area of circle with $r = 6$ cm)}
− (area of sector of a circle with $r = 6$ cm and $\theta = 60°$)

$$= \left\{\left(\frac{\sqrt{3}}{4} \times 12 \times 12\right) + (\pi \times 6 \times 6) - \left(\pi \times 6 \times 6 \times \frac{60}{360}\right)\right\} \text{ cm}^2$$

$$= \{(1.73 \times 36) + 36\pi - 6\pi\} \text{ cm}^2 = \{(1.73 \times 36) + (30\pi)\} \text{ cm}^2$$

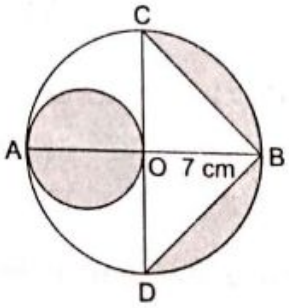
$$= \left\{\left(\frac{173}{100} \times 36\right) + \left(30 \times \frac{314}{100}\right)\right\} \text{ cm}^2 = \left(\frac{1557}{25} + \frac{471}{5}\right) \text{cm}^2$$

$$= \left(\frac{1557 + 2355}{25}\right) \text{cm}^2 = \frac{3912}{25} \text{ cm}^2 = 156.48 \text{ cm}^2.$$

Hence, the area of the shaded region is 156.48 cm^2.

EXAMPLE 5 *In the given figure, AB and CD are the diameters of a circle with centre O, perpendicular to each other. OA is the diameter of the smaller circle. If OB = 7 cm, find the area of the shaded region.*

[CBSE 2010, '13]



SOLUTION Clearly, the diameter of the larger circle is 14 cm and the diameter of the smaller circle is 7 cm.

So, the radius of the larger circle is 7 cm and that of the smaller circle is 3.5 cm.

Area of the shaded region

= {(area of smaller circle) + (area of larger semicircle)}
− (area of ΔCBD)

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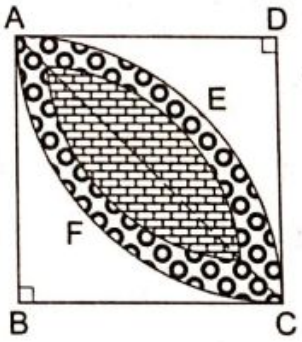
$$= \left[\left\{ \pi \times \left(\frac{7}{2}\right)^2 \right\} + \left\{ \frac{1}{2} \times \pi \times 7 \times 7 \right\} - \left\{ \frac{1}{2} \times CD \times OB \right\} \right] \text{cm}^2$$

$$= \left\{ \left(\frac{22}{7} \times \frac{49}{4} \right) + \left(\frac{1}{2} \times \frac{22}{7} \times 49 \right) - \left(\frac{1}{2} \times 14 \times 7 \right) \right\} \text{cm}^2$$

$$= \left(\frac{77}{2} + 77 - 49 \right) \text{cm}^2 = (38.5 + 28) \text{ cm}^2 = 66.5 \text{ cm}^2.$$

Hence, the area of the shaded region is 66.5 cm^2.

EXAMPLE 6 *Calculate the area of the designed region in the given figure, common between two quadrants of circles of radius 7 cm each.*



SOLUTION Area of the designed region

$$= 2[\text{ar}(\text{quadrant } ABCE) - \text{ar}(\Delta ABC)]$$

$$= 2\left[\frac{1}{4} \pi \times (7)^2 - \frac{1}{2} \times 7 \times 7 \right] \text{cm}^2$$

$$= 2\left[\left(\frac{1}{4} \times \frac{22}{7} \times 49 \right) - \left(\frac{49}{2} \right) \right] \text{cm}^2$$

$$= 2\left(\frac{77}{2} - \frac{49}{2} \right) \text{cm}^2 = \left(2 \times \frac{28}{2} \right) \text{cm}^2 = 28 \text{ cm}^2.$$

Hence, the area of the designed region is 28 cm^2.

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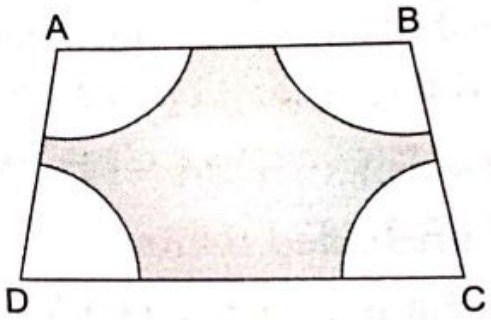
Hence, the area of the shaded reg...

12 *In the given figure, ABCD is a trapezium in which AB || DC, AB = 18 cm, DC = 32 cm and the distance between AB and DC is 14 cm. If arcs of equal radii 7 cm have been drawn with centres A, B, C and D, then find the area of the shaded region.* [CBSE 2015]



N ar(trap. $ABCD$) $= \frac{1}{2}$ (sum of parallel sides) × (distance between them)

$$= \left\{\frac{1}{2}(18 + 32) \times 14\right\} \text{ cm}^2 = 350 \text{ cm}^2.$$

Sum of the areas of the 4 sectors

= area of a circle of radius 7 cm

$$= \left(\frac{22}{7} \times 7 \times 7\right) \text{cm}^2 = 154 \text{ cm}^2.$$

Area of the shaded region $= (350 - 154) \text{ cm}^2 = 196 \text{ cm}^2$.

Hence, the area of the shaded region is 196 cm^2.

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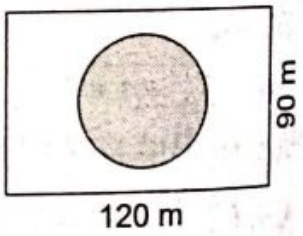
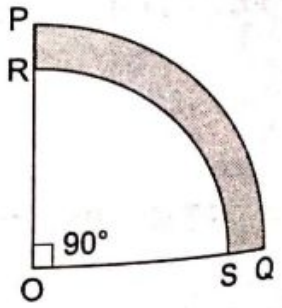
46. The cost of fencing a circular field at the rate of ₹ 25 per metre is ₹ 5500. The field is to be ploughed at the rate of 50 paise per m^2. Find the cost of ploughing the field. [Take $\pi = \frac{22}{7}$.]

47. A park is in the form of a rectangle 120 m by 90 m. At the centre of the park, there is a circular lawn as shown in the figure. The area of the park excluding the lawn is 2950 m^2. Find the radius of the circular lawn. (Given, $\pi = 3.14$.)



48. In the given figure, $PQSR$ represents a flower bed. If $OP = 21$ m and $OR = 14$ m, find the area of the flower bed.



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Chapter 2 Class VIII-A+B +C+D Number System an Introduction Date: 14-05-2020

Topic: Converting a binary number to decimal

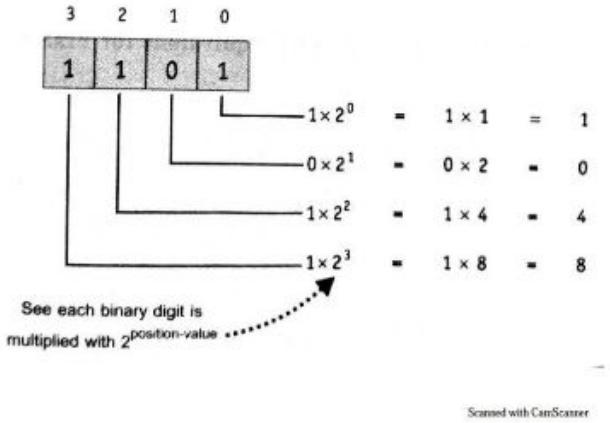
To convert a binary number to decimal, follow these steps:

Step 1 Mark the position of binary digits from RIGHT to LEFT as 0, 1, 2, 3, 4 e.g., if the number is 1101 then it will be written as shown below:

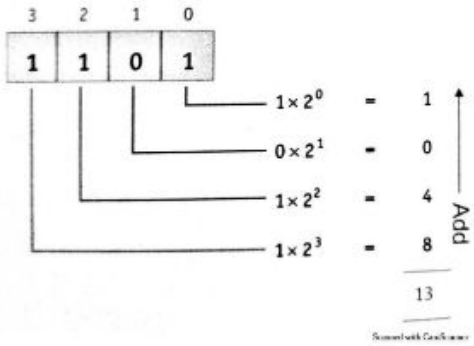
3	2	1	0
1	1	0	1

Positions marked from RIGHT to LEFT

Step 2 Now multiply each binary digit with its base to the power of position i.e., $2^{\text{position-value}}$



Step 3 now add all the resultant values, That is



This is the equivalent decimal number. Hence, $1101_2 = 13_{10}$

H.W (Answer the following questions)

1. **Convert the binary number 110010 to decimal.**
2. **Convert the binary number 101010 to decimal.**
3. **Convert the binary number 00111 to decimal.**
4. **Convert the binary number 10011011 to decimal.**
5. **Convert the binary number 11011 to decimal.**

Chapter-02 Physical features of India. Class-IX-(A-D)
Geography Topic- Northern Fertile Plain 14/05/20

(1) Features of Northern Fertile Plain

(a) It is the most fertile land flat land.
(b) It is the most thickly populated area.
(c) It is very rich in agriculture.
(d) This plain has most fertile soil named alluvial soil
(e) It has monsoon type of climate.

The Great Indian Desert.

(1) The Great Indian desert lies to the west part of our country in western Rajasthan.
(2) The Great Indian desert is also known as Thar Desert which receives only less than 50 cm annual rainfall.
(3) There is only one peninsular river named Luni which flows through this area.
(4) The climate of this desert is extremely hot and dry with low vegetation.
(5) This desert is an example of hot desert where sand storms are common.
(6) North of the Luni Basin, there is a large area of inland drainage on the eastern edge of the Thar desert having several saline lakes Sambhar, Didwani, Degana etc.

Home work

(1) Write any four features of Northern Fertile Plain.
(2) Write any four features of the Great Indian Desert.

Mustafa
14/5/20

Chapter-03 Water Resources Class X (A-D) 14/5/2

Geography

Multi Purpose River Valley Project (MRVP)

① A dam is a barrier across flowing water that obstruct the flow of water creating a reservoir (जलाशय)

② MRVP are large dams which serve numerous purposes simultaneously (एक साथ)

③ Some of the purposes are being served by these project. They are— (a) Providing water for irigetion
(b) To control flood (f) Development of navigation
(c) To prevent soil from erosion (g) Development of tourism
(d) Provision of drinking water.
(e) Development of fisheries

④ Some projects/dams are built on different Indian rivers. They are—

S.No	Projects Name	Built on Rivers
(a)	Bhakhra-Nangal Project	River Sutlej
(b)	Balal Project	River Chenab
(c)	Hirakud Project	River Mahanadi
(d)	Mettur Dam	River Kaveri
(e)	Maithon Dam	River Tilaiyya
(f)	Sardar Sarovar Dam	River Narmada
(g)	Damodar Valley Project (DVP)	River Damodar
(h)	Koyna Dam	River Krishna
(i)	Tehri Dam	River Bhagirathi
(j)	Pravara Dam	River Godavari

$$A = P\left(1 + \frac{r}{100}\right)^n$$

$$\Rightarrow A = 8000\left(1 + \frac{15}{100}\right)^3$$

$$\Rightarrow A = 8000\left(\frac{10+1}{10}\right)^3$$

$$\Rightarrow A = 8000\left(\frac{11}{10}\right)^3$$

$$\Rightarrow A = \frac{8000 \times 11 \times 11 \times 11}{10 \times 10 \times 10}$$

$$\Rightarrow A = 8 \times 1331$$

$$\Rightarrow A = Rs\ 10648$$

$$C.I = A - P$$

$$\Rightarrow C.I = Rs\ (10648 - 8000)$$

$$\Rightarrow C.I = Rs\ 2,648 \quad Ans$$

H.W

Q. Find the compound interest on Rs 6400 for 2 years, compounded annually $7\frac{1}{2}$ % per annum.

Q. Find the amount and compound interest on Rs 10,800 for 3 years at $12\frac{1}{2}$ % per annum compounded annually.

Notes Compound Interest 14/05/2020

We can derive general formula for calculating compound interest in various cases as given below. It is very easy to calculate compound interest by using formula.

Case I. When the interest is compounded annually.

$$A = P\left(1 + \frac{R}{100}\right)^n$$

where, A = Amount
P = Principal
R = Rate
n = Time

~~Compound~~

Compound Interest (C.I) = Amount − Principal.

$$\Rightarrow \boxed{C.I = A - P}$$

Q. Find the amount of Rs 8000 for 3 years, compounded annually at 10% per annum. Also, find the compound interest.

Sol^n:

P = Rs 8000
Time : 3 years
Rate : 10%
} given

$A = ?$

$C.I = ?$

Notes

(3) 10 05 2020

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

$$= \frac{300 - 15 + 40 - 48 - 120}{60}$$

$$= \frac{340 - 223}{60}$$

$$= \frac{117}{60} \quad \text{Ans}$$

Home work

Find

(1) $-\frac{5}{2} + \frac{3}{4} - \frac{1}{5}$

(2) $\frac{6}{5} - \frac{2}{3} + \frac{5}{2} - 5$

(3) $\frac{4}{3} - \frac{5}{4} + \frac{3}{2} - 2$

Notes 10 05 2020

Find ① $-\frac{7}{2}+\frac{3}{4}-5$

$=\frac{-18+3-15}{4}$

$=\frac{-33+3}{4}$

$=-\frac{30}{4}\,\frac{15}{2}=-\frac{15}{2}$ Ans.

Step 1: Take the L.C.M of 2, 4, and 1.

Step 2: Addition & subtraction according to rules of integer

② $-\frac{4}{5}+\frac{6}{3}-\frac{2}{5}+\frac{5}{2}$

$=\frac{-24+60-12+75}{30}$

$=-\frac{36+175}{30}$

$=\frac{99}{30}\,\frac{33}{10}$

$=\frac{33}{10}$

$=3.3$ Ans

Notes Date: 24.08

⇒ $x\left[1 - \frac{1}{12}\right] = 87.12$

⇒ $x\left[\frac{12-1}{12}\right] = 87.12$

⇒ $\frac{11x}{12} = 87.12$

⇒ $x = \frac{87.12 \times 12}{11}$

⇒ $x = \frac{1045.44}{11} = 95.04\ m^2$

∴ $95.04\ m^2$ steel was used in actual while making such a tank.

11.03

Q. In a hot water heating system, there is a cylindrical pipe of length 28 m and diameter 5 cm, find the total radiating surface in the system.

Q. Inside the above formula of surface area and volume.

Notes Surface Area & Volumes 14/05/2020

Q Find i) the lateral or curved surface area of a closed cylindrical petrol storage tank that is 4.2 m in diameter and 4.5 m high. ii) how much steel was actually used, if $\frac{1}{12}$ of the steel actually used was wasted in making the tank.

Sol^n:- i) Diameter = 4.2 m

radius = $\frac{D}{2} = \frac{4.2}{2} = 2.1$ m

hight = 4.5 m.

L.S.A / C.S.A cylinder = $2\pi rh$

$= 2 \times \frac{22}{7} \times \frac{21}{10} \times \frac{45}{10}$

$= \frac{66 \times 9}{10}$

$= 59.4 \text{ m}^2$

$\therefore$ C.S.A of tank is 59.4 m^2

ii) T.S.A of tank $= 2\pi r(r+h)$

$= 2 \times \frac{22}{7} \times 2.1 (2.1 + 4.5)$

$= 2 \times \frac{22}{7} \times \frac{21}{10} \times \frac{66}{10}$

$= 87.12 \text{ m}^2$

Let $x \text{ m}^2$ actually used as mating in tank then wasted steel $= \frac{1}{12} \times x = \frac{x}{12}$

$\therefore x - \frac{x}{12} = 87.12$

CHEM 14.05.2020

Q: Find no. of electrons in 1.6 gm of methane.

A:

1 Mole CH_4 = 12 + 4 = 16 gm

16 gm CH_4 contains 6.022×10^{23} molecules

1.6 " " " $\frac{6.022 \times 10^{23}}{16} \times 1.6$

$\frac{6.022 \times 10^{23}}{16} \times \frac{16}{10}$

$= 6.022 \times 10^{22}$ molecules

1 Molecule CH_4 contains 10 electrons

6.022×10^{22} " " " $10 \times 6.022 \times 10^{22}$

$= 6.022 \times 10^{23}$

Q: Find the no. of hydrogen atoms in 3.42 gm Sucrose ($C_{12}H_{22}O_{11}$)

176
144
22
342

1 Mole $C_{12}H_{22}O_{11}$ = 144 + 22 + 176

= 342 gm

342 gm Sucrose contains 6.022×10^{23} molecules

3.42 " " " 6.022×10^{21}

1 Molecule Sucrose ($C_{12}H_{22}O_{11}$) — 22 H-atoms

6.022×10^{21} " " " —

$22 \times 6.022 \times 10^{21}$

$= 132.4 \times 10^{21}$

$= 1.32 \times 10^{23}$ H-atoms

Q: The mass of 5.6 litre any gas is 11 gm. Find the molecular mass of gas.

5.6 L gas at N.T.P = 11 gm

22.4 L " " " $= \frac{11}{5.6} \times 22.4$

$= 44$ gm

Molecular mass of gas = 44 a.m.u

MD FARRUKH ALAM

English
Bhabani

CLASS X A, B, C & D 14/5/2020

Two stories about Flying Part-I

His First Flight

By Liam O'Flaherty

Summary

The story of His First Flight is based on a young seagull who is afraid to fly because of distrust on its wings. All his younger siblings can fly fearlessly despite their shorter wings. On the other hand, the young bird cannot gather the courage to trust his wings. He always becomes afraid when coming forward to the brink of the ledge and attempts to fly. His mother & father come around calling him and threatening him starve on the ledge unless he flies. Despite all the calling to his shrilly, he could not move. All day long he watches his parents fly with his siblings and teaching them how to skim the waves.

One day the whole family flies to a big plateau and on the opposite cliff, the seagull is sitting hungry. He begs his mother to bring him some food. His mother picks a piece of fish and flies across to him. Maddened by hunger, he jumped at the fish with a loud shout. He falls

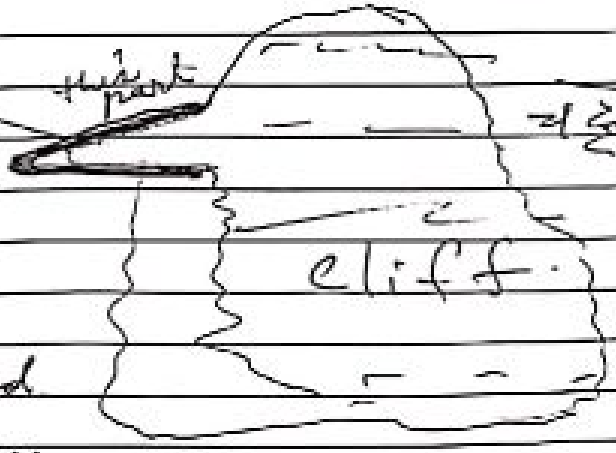
English CLASS X A, B, C & D 15/5/2020

Beehive

His First Flight Part-I

outward and downward into space and he can feel his wings cutting through the air. The next moment he is flying fearlessly and his siblings soaring and diving with him.

Distrust - Not to believe.
Siblings - Brothers & sisters.
Ledge - a narrow horizontal surface projecting from a cliff



Soaring - to go upward.
Despite - Inspite of
plateau - an area of fairly level of high ground.
skim - fly in the sky

H.W Q/ Understand the above summary.