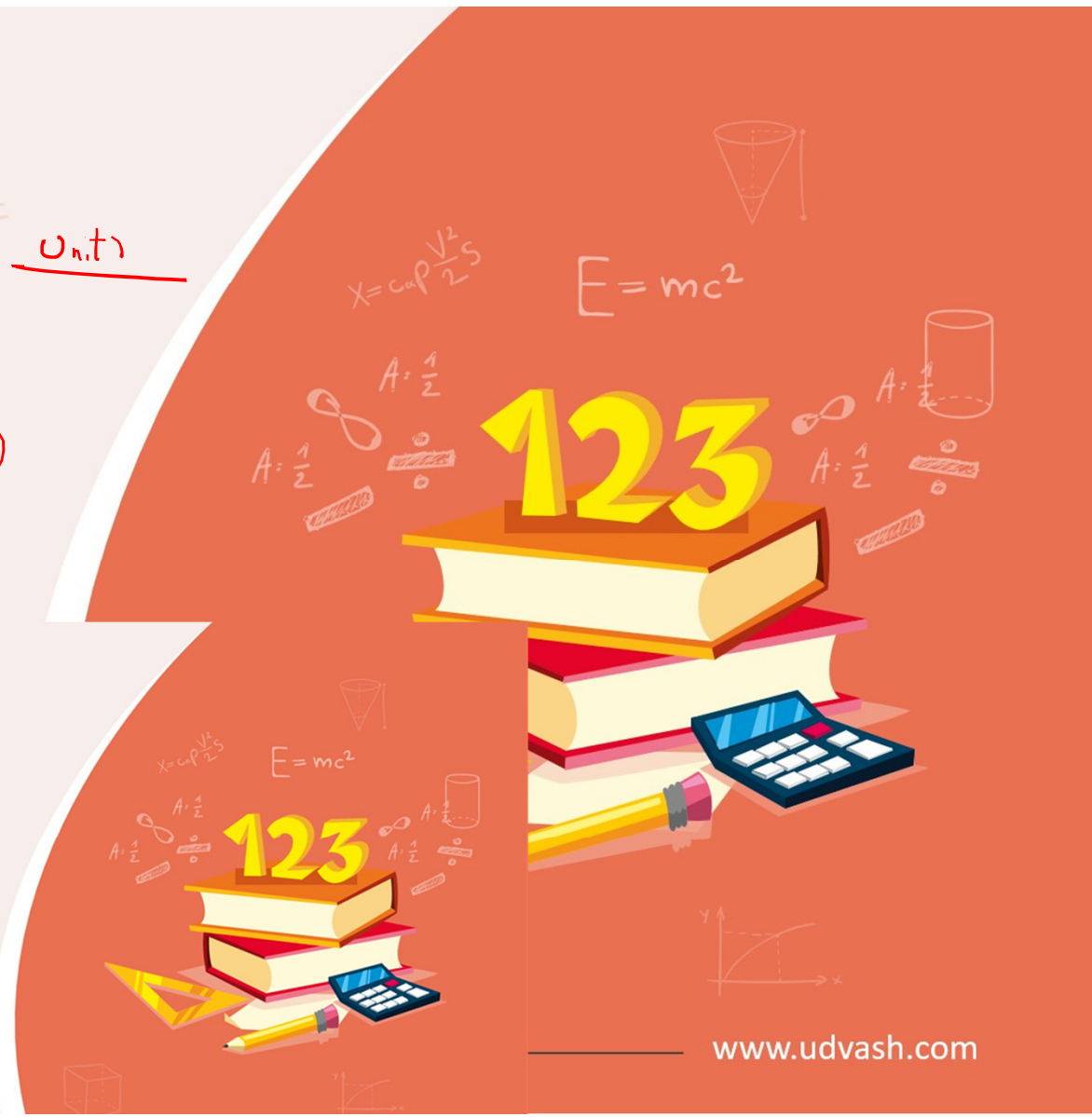
৮ম শ্রেণি একাডেমিক প্রোগ্রাম ২০২০

গণিত

লেকচার : M-16

অধ্যায় ৩ : পরিমাপ (বাকি অর্ধেক)



৮ম শ্রেণি একাডেমিক প্রোগ্রাম ২০২০

গণিত

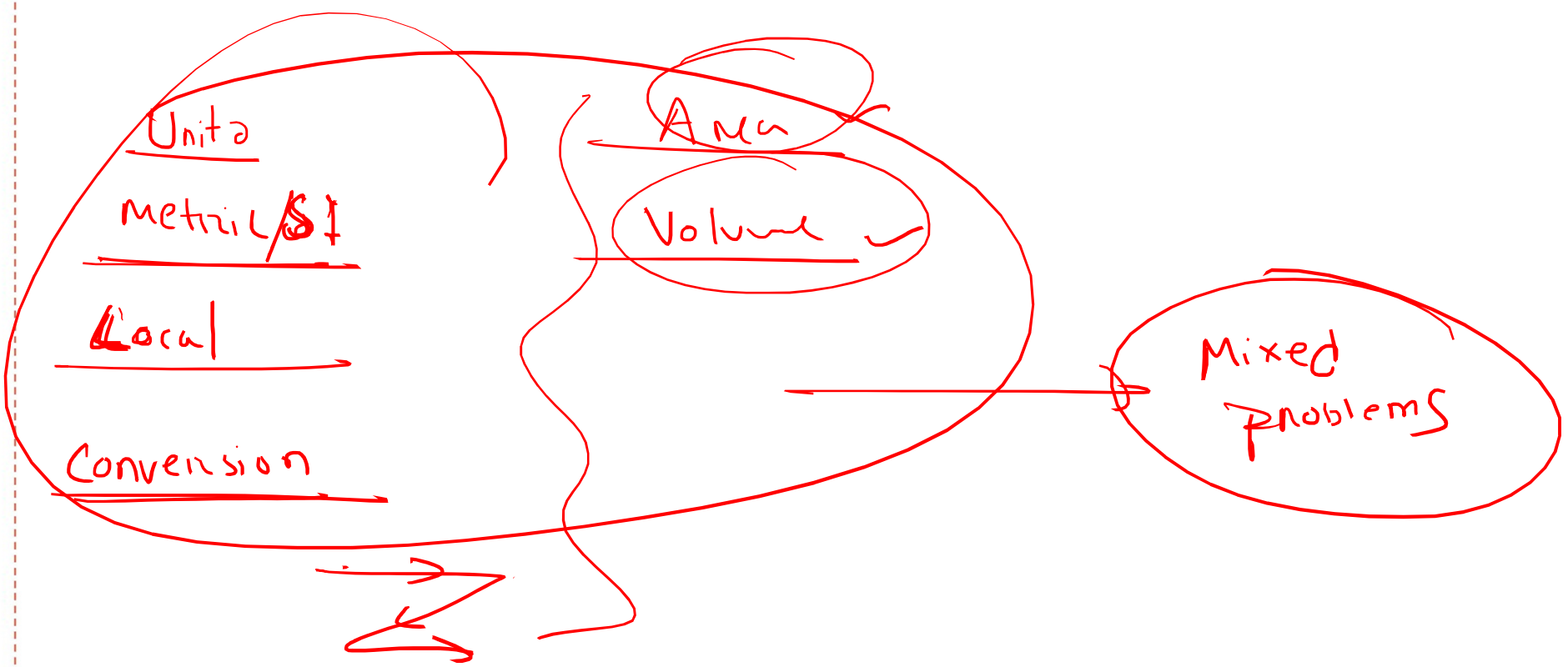
লেকচার : M-16

অধ্যায় ৩ : পরিমাপ (বাকি অর্ধেক)

উদ্ভাস
একাডেমিক এন্ড এডমিশন কেয়ার

www.udvash.com

What will we learn from chapter-3?



Chapter-3

The length of a rectangular is 48 m and breadth is 32m and 80cm .

A) How is the area of a rectangular ?

B)Inside ,there is a road of breadth 3 meter . Find the area of the road .

C)If the perimeter of the rectangular is equal to a square , how much money will be spent to imbed grass on that square at Tk.50 per square meter ?

A

length 48m

breadth 32m 80cm

100cm = 1m

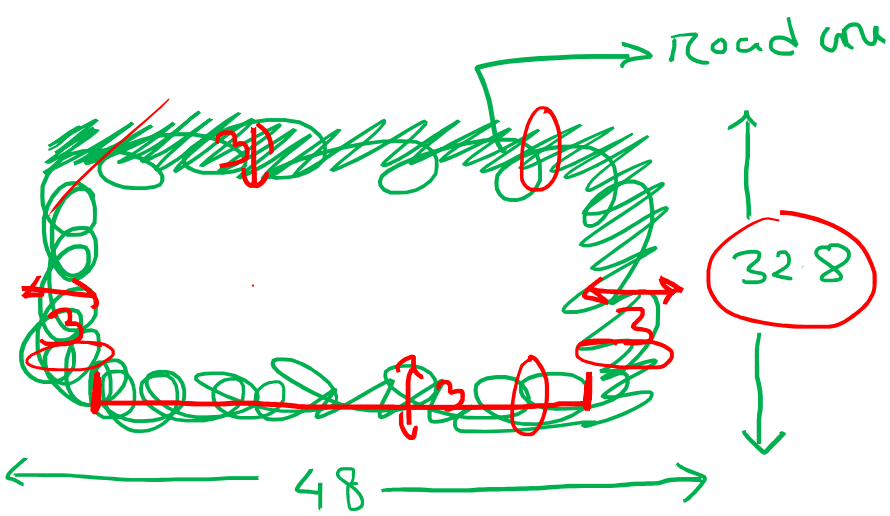
80cm = .8m

" = 32.8m

Area = length × breadth

= 48 × 32.8m

= 1574.4 m^2/sq.m



Without the road,

length of the inner field is

$48 - (3 \times 2)$ m

$= 48 - 6 = 42$m

Breadth,

$32.8 - (3 \times 2)$

$= 32.8 - 6$

$= 26.8$m

Area of the inner field,

42×26.8 m^2

$= 1125.6$ m^2

Area of the road

$1574.4 - 1125.6 = 448.8$ m^2

POLL

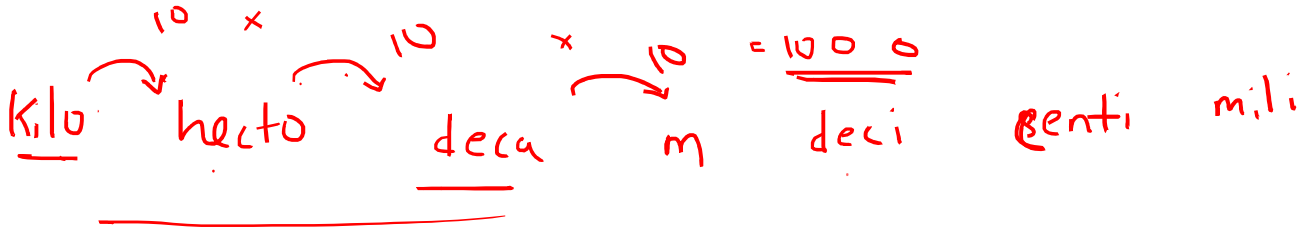
In metric system , 1 kilometer =

i)10 hectometer ii)100 decameter iii)1000 meter

Which following is correct ?

A) i) and ii) B) i) and iii)

C) ii) and ii) D) i) , ii) and iii)



POLL

BMI

Observe these following statement :-

i) 1 inch = 2.54 c.m.(approximate)

ii) 1 yard=0.914 m. (approximate)

iii)1 k.m.=1.61 mile (approximate)

which following statement is correct ?

A) i) and ii) B) ii) and iii)

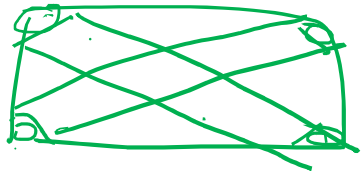
C) i) and iii) D) i),ii) and iii)

1 km = 0.62 mile

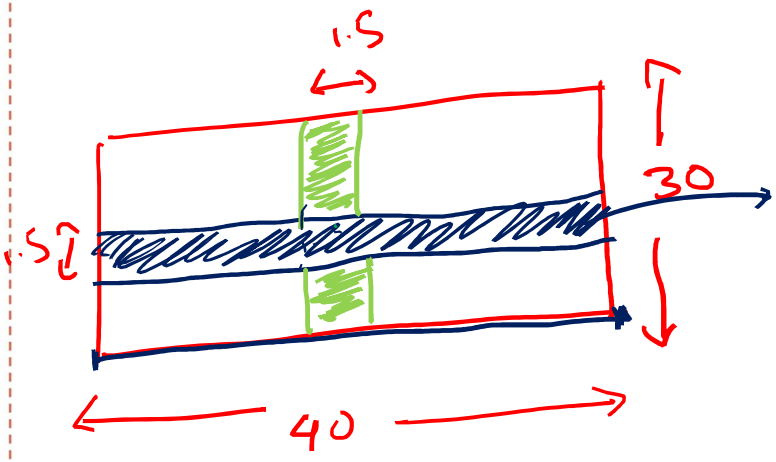
1 mile = 1.61 km

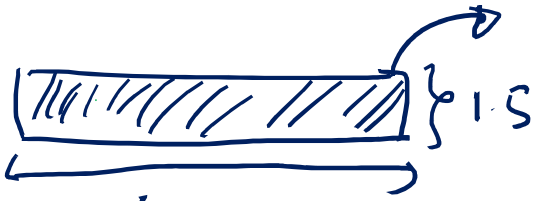
mile > k.m

Chapter-3



***There are two crosswise roads of breath 1.5 meters just in the middle of length 40 meters and breadth 30 meters. What is the area of the two roads?

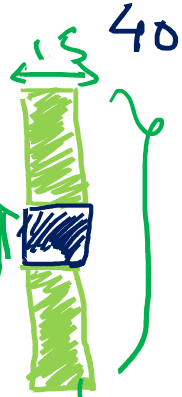




Area

40×1.5

$= 60\ m^2$



length $(30 - 1.5) = 28.5$

breadth $\rightarrow 1.5$

Area : $28.5 \times 1.5 = 42.75 m^2$

$(60 + 42.75) =$

$\times$ (1.5)

Ans m^2

Chapter-3

***The population of a city is 150000.Everyday 10 people dies and born 17 babies. After one year , how will be the population of that city?

1 day babies born → 17

" " people dies → 10

population increase (17 − 10)
= 7 people

1 year → 365 days

population increase in 1 day → 7 ,

" " 365 days →

(7 * 365) people
= 2555 people

After 1 year ,

150000 + 2555

152555 Ans.

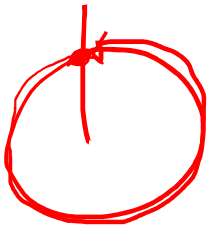
Chapter-3

1Km = 1000 m

****In a car,the circumference of the tire 5.25 meter. How many times the tire will rotate to complete 42 kilometers ?

42Km = 42×1000 m

= 42000m



5.25m distance is covered by 1 rotation

∴ 1 ---------- $\frac{1}{5.25}$

∴ 42000 ---------- 42000

If a tire rotates one time, crosses the same 5.25 distance equal to the circumference.

8000 rotation

Chapter-3

ACQ

*** A businessman stored 500 metric ton rice . He transferred two and a half metric ton from storehouse to shop daily . How many days he need to transfer all of it ?

2.5 m T

2.5 M.T rice is transferred in 1 day

∴ 1 - - - - - - - - $\frac{1}{2.5}$ day

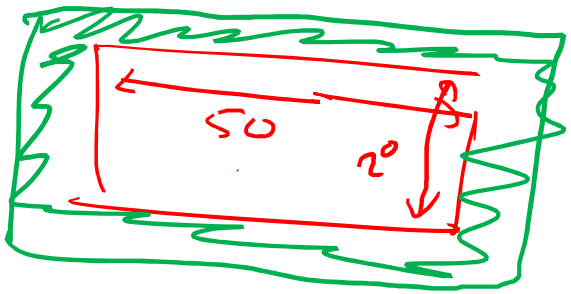
∴ 500 - - - - - - - - $\frac{500}{2.5}$ days

= 200 days

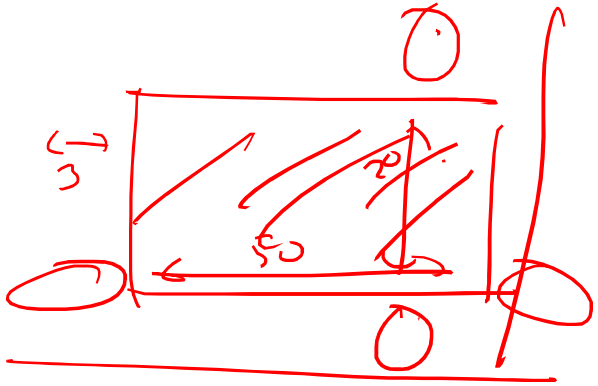
Poll

The length of a rectangle field is 50 meter and breadth 20 meter . Around the field , there is a 3 meter wide road .
What is the area of the field ?

A) 10 sq.m.
B)1000 sq.m.
C)2000 sq.m.
D)3000 sq.m.

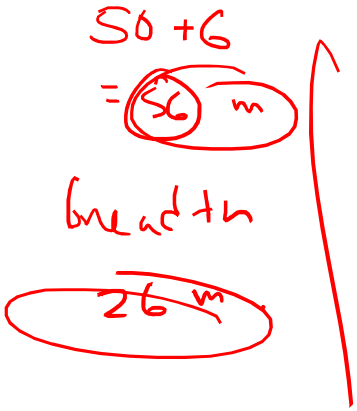


Poll



What is the area of the road ?

A) 456 sq.m.
B) 384 sq.m.
C) 219 sq.m.
D) 201 sq.m.



Area → 56 × 26 m — 1000

↓

1456 m² — 1000 m² = 456 m²

Chapter-3

***The area of a rectangle is 10 acres and its length is 4 times the breadth . What is the length of the rectangle in meters ?

1 acre → 4046.86 m^2

∴ 10 acres → (4046.86 × 10) m^2

Area of the rectangle = 40468.6 m^2

Assume,

Breadth → x m

∴ length → 4x m

→ Area = 4x × x m^2 = $4x^2$ m^2

$4x^2 = 40468.6$

$x^2 = 10117.5$

$x = 100.5840$

length → 4x → 402.34 m (Approx)

Chpater-3

H.W → Practice

***a reservoir contains 19200 liters of water . Its depth is 2.56 meters and its breadth is 2.5 meters. What is its length ?

Chapter-3

1L = 1000 cm³

***Gold is 19.3 times heavier than water . The length of a rectangular gold bar is 7.8 cm, the breadth is 6.4 cm and the height is 2.5 cm. What us the weight of the gold bar ?

Volume Transfer ✗ weight (gold)

length → 7.8cm

breadth → 6.4cm

height → 2.5cm

pure water

1 L pure water → 1kg

1000 cm³ ⟷ 1000 gram

1 cm³ → 1 gram

Volume → length × breadth × height

= 7.8 × 6.4 × 2.5 cm³ / cubic cm

= 124.8 cm³

124.8 cm³ water weights (124.8 × 1) gram

= 124.8 gram

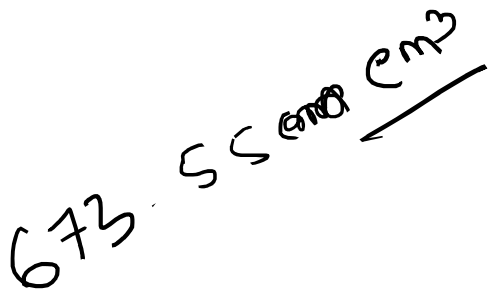
124.8 cm³ gold weights (124.8 × 19.3) gram

= 2408.64 gram

Ans

Chapter-3

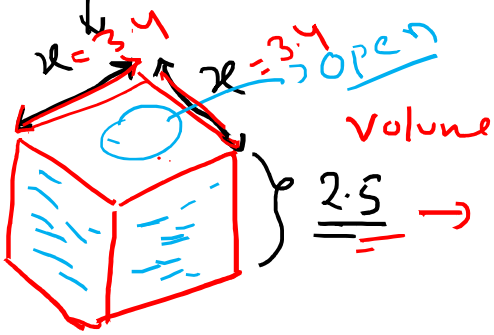
***The length of a small box is 15 cm 2.4 mm, the breadth is 7cm 6.2 mm and the height is 5 cm 8mm . What is the volume of the box in cubic centimeters ?



Chapter-3

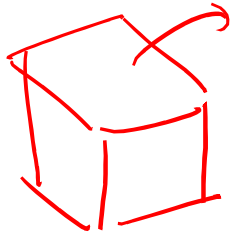
$1m^3 \rightarrow 1000L$

***A square open reservoir of depth 2.5 meters contains 28,900 liters of water inside . How much money will be spent to put a lead sheet in the innerside at TK. 12.50 per sq. meters ?



$28,900L \rightarrow \frac{28900}{1000} m^3$

Volume of reservoir = $28.9 m^3$/cubic m



$45.54 m^2$

Volume = length × breadth × depth

$= x \times x \times 2.5$

$= 2.5x^2$

$2.5x^2 = 28.9$

$x^2 = 11.56$

$x = 3.4 m$

(45.54×12.50)

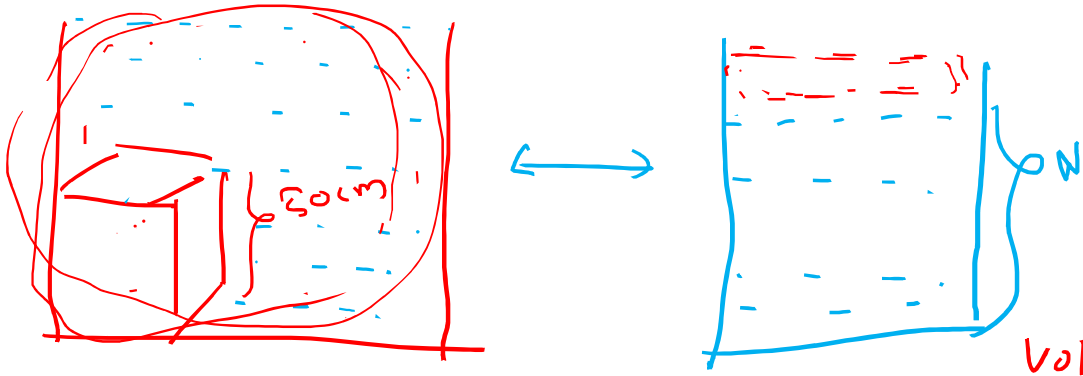
TK

569.50TK

$1m^3 = 100\,000\,00\,cm^3$

Chapter-3

*** A solid cube of sides 50 cm is kept in an empty reservoir of length 3 meters , breadth 2 meters and height 1 meter . The cube is taken out after fulfilling the reservoir with water . What is the depth of water now ?



Cube volume

$50 \times 50 \times 50\,cm^3$

$= 125000\,cm^3$

$= \frac{125000}{1000000} = 0.125m^3$

Volume of the water / without the cube.

$6 - 0.125$

$= 5.875m^3$

Volume $6m^3$ - - - depth was 1m

$\therefore$ - - - $1m^3$ - - - - - $\frac{1}{6}$ m

$\therefore$ $5.875m^3$ - - - - - - $\frac{5.875}{6} = 0.979$ m Ans

Practical

Chapter-3

***The length of a pond is 32 meters , breadth is 20 meters and the depth of water of the pond is 3 meters . The pond is being made empty by a machine which can remove 0.1 cubic meters of water per second . How much time will be required to make the pond empty ?

Creative question

A rectangular iron bar is 8.8 c.m. long, 6.4 c.m. wide and 2.5 c.m. high . The iron bar is kept in a pot measuring 15 c.m. ×6.25 c.m. ×4 c.m. and the pot is filled with water . Iron is 7.5 times heavier than water.
A. Find out the volume of the water pot .
B. find out the weight of the iron bar .
C. The iron bar is taken out of the fully filled water pot . What will be the height of the water in the pot ?

না বুঝে মুখস্থ করার অভ্যাস প্রতিভাকে ধ্বংস করে