

f' k{k k funs' kky;

jk"Vh; jkt /kuh {sk} fnYyh l jdkj
eW; vk/kfjr l gk; d l kexz
l u~2012-13

fo"k; μ xf.kr
d{k k μ IX

dsfunzku e;
Mk, l qhrk , l - dks' kd
f' k{k k funs' kdk

l eUb; d %
Jherh 'kdryk egt u
i zkkukpk; k
jk, m, ek, dU; k fo |ky;
Jh fuokl i qh ubZfnYyh 110065

r\$ kj dUkz%

- 1- Jherh l fork fot jkt dh; l g f' k{k k mPpre fo |ky; uq 1] ykt ir uxj
- 2- vydk xhrk 1/2kt dh; mPpre ek/; fed ckydk fo |ky;] Jh fuokl i qh
- 3- l q u 'kekZ 1/2kt dh; mPpre ek/; fed ckydk fo |ky;] Jh fuokl i qh
- 4- J) k 'kekZ 1/2kt dh; l g f' k{k k mPprj fo |ky; t x i q k
- 5- cchrk [kuk 1/2kt dh; l g f' k{k k mPprj fo |ky; t x i q k

jS[kd l ehdj.k

- 1- fdl h xp ds i k f e d fo | ky; eay Md; k adk u k e du fi Nys o "kZl sn x p k g y k g S
; fn bl o "kZ ds u k e du d k 'y' } k j k r F k fi Nys u k e du d k 'x' } k j k n' k Z j r k u
¼ d } bl l p u k } k j k j S [k d l e h d j . k c u k b , A
¼ k } ; fn fi Nys o "kZ d k u k e du 35 F k r k s bl o "kZ d k u k e du c r k b , A
¼ x } ; g k f d u e W , k a d k n' k Z , k x ; k g S
- 2- l k u ; k v i u s t U e f n u d s v o l j i j , d v u k F k J e e a p k W y V c W r h g S o g i e , d
c P p s d k s 5 p k W y V n r h g S r F k 0 L d k a d k s d y 20 p k W y V n r h g S ; fn c P p a d h l d ; k
d k 'x' l s r F k d y c k W h x b Z p k W y V d k 'y' l s n' k Z , k t k , r k u
¼ d } bl d k j S [k d l e h d j . k } k j k n' k Z , A
¼ k } ; fn m l u s d y 145 p k W y V c k W s r k s v u k F k J e e a c P p a d h l d ; k K k r d j k A
¼ x } l k u ; k } k j k f d u e W , k a d k n' k Z , k x ; k g S
- 3- f d l h v k o k l h r ; l k k ; V h d s f u o k f l ; k a } k j k o "k Z d s t y d k l j f { k r d j u s g r q H k e x r
V d l e a 30 ? k u l e h e l d . M d h n j l s b d e k f d ; k x ; k A ; fn 'x' l d . M e a 'y' ? k u l e h
i k u h d k s b d e k f d ; k x ; k r k u
¼ d } bl t k u d j h d k j S [k d l e h d j . k d s : i e a f y f [k A
¼ k } bl l e h d j . k d k e k u d : i a x + b y + c = 0 d s : i e a f y f [k A
¼ x } l k k ; V h d s l n L ; k a } k j k f d u e W , k a d k n' k Z , k x ; k g S
- 4- , d Q f ä u s d n n y h r ; d j u s d s f y , , d v k W s f j D ' k k f y ; k a v k W s f j D ' k k d k f d j k ; k
i g y s f d e h d s f y , 10 # , r R ' p k r ~ ; g 7 # i ; s i f r f d e h g k s t k r k g S ; fn r ; d h
x b Z n y h 'x' f d e h r F k d y f d j k ; k 'y' # i ; s g k s r k u
¼ d } bl l p u k d s v k / k j i j j S [k d l e h d j . k c u k b , A
¼ k } Q f ä 16 f d e h d h n y h r ; d j r k g S r F k v k W s f j D ' k k p k y d d k s 120 # i ; s n s r k
g S v k W s p k y d d g r k g S ^ ; g l g h f d j k ; k u g h g S * r F k m l Q f ä d k s c d k ; k
j k f ' k n s n r k g S v k W s p k y d } k j k n h x b Z c d k ; k j k f ' k c r k b , A
¼ x } v k W s p k y d } k j k n' k Z s t k u s o k y s e W , c r k b , A

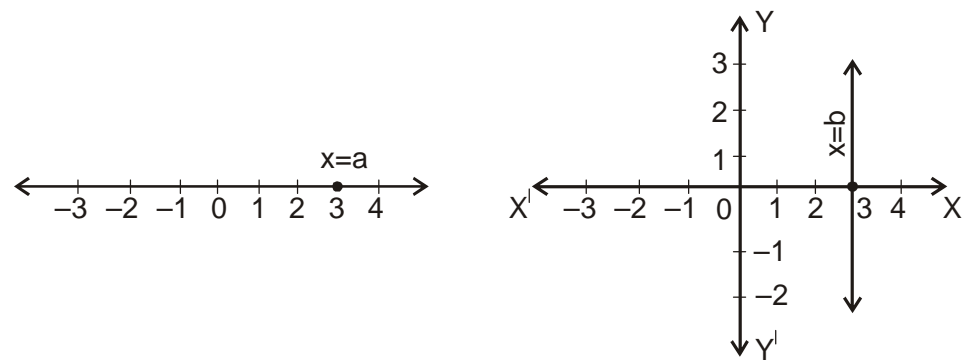
5- $\frac{1}{2}d$ mi jk $\frac{1}{2}$ l p $\frac{1}{2}$ uk d $\frac{1}{2}$ s j $\frac{1}{2}$ [k $\frac{1}{2}$ l e $\frac{1}{2}$ dj.k }k $\frac{1}{2}$ j k n' $\frac{1}{2}$ W, A
 $\frac{1}{4}$ k $\frac{1}{2}$ fuokl ; k $\frac{1}{2}$ }k $\frac{1}{2}$ j k i n $\frac{1}{2}$ f' kr e $\frac{1}{2}$ W, cr $\frac{1}{2}$ b, A

6- jgeku v $\frac{1}{2}$ i $\frac{1}{2}$ z $\frac{1}{2}$ k' k usfeydj i $\frac{1}{2}$ z $\frac{1}{2}$ ku e $\frac{1}{2}$ ah j $\frac{1}{2}$ gr d $\frac{1}{2}$ k' ea 500 #i ; s $\frac{1}{2}$ dk ; k $\frac{1}{2}$ nku fn ; k $\frac{1}{2}$ u
 $\frac{1}{2}$ d $\frac{1}{2}$ bl l p $\frac{1}{2}$ uk d $\frac{1}{2}$ s j $\frac{1}{2}$ [k $\frac{1}{2}$ l e $\frac{1}{2}$ dj.k }k $\frac{1}{2}$ j k n' $\frac{1}{2}$ W, A
 $\frac{1}{4}$ k $\frac{1}{2}$ bl x $\frac{1}{2}$ r $\frac{1}{2}$ f $\frac{1}{2}$ of/k e $\frac{1}{2}$ a $\frac{1}{2}$ f $\frac{1}{2}$ du e $\frac{1}{2}$ W, k $\frac{1}{2}$ d $\frac{1}{2}$ s n' $\frac{1}{2}$ W $\frac{1}{2}$ k x ; k g $\frac{1}{2}$ S.

7- j $\frac{1}{2}$ [k $\frac{1}{2}$ l e $\frac{1}{2}$ dj.k $2(x+1)=3(y-1)-4$ d $\frac{1}{2}$ s v $\frac{1}{2}$ k $\frac{1}{2}$ s $\frac{1}{2}$ [k }k $\frac{1}{2}$ j k fn [$\frac{1}{2}$ W, A t $\frac{1}{2}$ p $\frac{1}{2}$ d $\frac{1}{2}$ lft , fd f $\frac{1}{2}$ c $\frac{1}{2}$ h
 $(-3, +1)$ bl j $\frac{1}{2}$ s $\frac{1}{2}$ [k $\frac{1}{2}$ i $\frac{1}{2}$ j f $\frac{1}{2}$ L $\frac{1}{2}$ F $\frac{1}{2}$ kr g $\frac{1}{2}$ S ; k u $\frac{1}{2}$ gh $\frac{1}{2}$
; g $\frac{1}{2}$ k $\frac{1}{2}$ i $\frac{1}{2}$ j f $\frac{1}{2}$ du e $\frac{1}{2}$ W, k $\frac{1}{2}$ d $\frac{1}{2}$ s n' $\frac{1}{2}$ W $\frac{1}{2}$ k x ; k g $\frac{1}{2}$ S.

8- d $\frac{1}{2}$ {k $\frac{1}{2}$ e $\frac{1}{2}$ a $\frac{1}{2}$ v/ ; k $\frac{1}{2}$ i d $\frac{1}{2}$ k use $\frac{1}{2}$ y f $\frac{1}{2}$ c $\frac{1}{2}$ h $\frac{1}{2}$ q $\frac{1}{2}$ l s $\frac{1}{2}$ x $\frac{1}{2}$ t $\frac{1}{2}$ j $\frac{1}{2}$ us $\frac{1}{2}$ o $\frac{1}{2}$ ky $\frac{1}{2}$ h j $\frac{1}{2}$ s $\frac{1}{2}$ [k $\frac{1}{2}$ d $\frac{1}{2}$ s $\frac{1}{2}$ y, l gh f $\frac{1}{2}$ od $\frac{1}{2}$ Yi < $\frac{1}{2}$ W $\frac{1}{2}$ s $\frac{1}{2}$ d $\frac{1}{2}$ k $\frac{1}{2}$ s $\frac{1}{2}$ dg $\frac{1}{2}$ ku
j $\frac{1}{2}$ [k $\frac{1}{2}$ l e $\frac{1}{2}$ dj.k fu $\frac{1}{2}$ E $\frac{1}{2}$ u g $\frac{1}{2}$ S $\frac{1}{2}$
 $y+x=1, x+3y=2, x+y=0$
j $\frac{1}{2}$ g $\frac{1}{2}$ ku $\frac{1}{2}$ us $\frac{1}{2}$ bl d $\frac{1}{2}$ k l gh m $\frac{1}{2}$ U $\frac{1}{2}$ j $x+y=0$ p $\frac{1}{2}$ q $\frac{1}{2}$ A fu $\frac{1}{2}$ E $\frac{1}{2}$ u e $\frac{1}{2}$ a l s $\frac{1}{2}$ d $\frac{1}{2}$ k $\frac{1}{2}$ s $\frac{1}{2}$ k e $\frac{1}{2}$ W, n' $\frac{1}{2}$ W $\frac{1}{2}$ k x ; k g $\frac{1}{2}$ S $\frac{1}{2}$
 $\frac{1}{2}$ d $\frac{1}{2}$ l p $\frac{1}{2}$ pk $\frac{1}{2}$ $\frac{1}{4}$ k $\frac{1}{2}$ l e $\frac{1}{2}$ ku $\frac{1}{2}$ r $\frac{1}{2}$ k $\frac{1}{2}$ k $\frac{1}{2}$ l $\frac{1}{2}$ b $\frac{1}{2}$ Z $\frac{1}{2}$ ku $\frac{1}{2}$ n $\frac{1}{2}$ j $\frac{1}{2}$ l
 $\frac{1}{4}$ k $\frac{1}{2}$ l n $\frac{1}{2}$ W $\frac{1}{2}$

9-



v $\frac{1}{2}$ k $\frac{1}{2}$ N $\frac{1}{2}$ f $\frac{1}{2}$ r (i) v $\frac{1}{2}$ k $\frac{1}{2}$ N $\frac{1}{2}$ f $\frac{1}{2}$ r (ii)
 $\frac{1}{2}$ d $\frac{1}{2}$ Ä $\frac{1}{2}$ i $\frac{1}{2}$ j cu $\frac{1}{2}$ h v $\frac{1}{2}$ k $\frac{1}{2}$ N $\frac{1}{2}$ f $\frac{1}{2}$ r ; k $\frac{1}{2}$ (i) o (ii) e $\frac{1}{2}$ a a r $\frac{1}{2}$ F $\frac{1}{2}$ k $\frac{1}{2}$ b d $\frac{1}{2}$ k e $\frac{1}{2}$ ku K $\frac{1}{2}$ kr d $\frac{1}{2}$ f $\frac{1}{2}$ j, A
 $\frac{1}{4}$ k $\frac{1}{2}$ D ; k $a=b$? v $\frac{1}{2}$ i $\frac{1}{2}$ us $\frac{1}{2}$ m $\frac{1}{2}$ U $\frac{1}{2}$ j d $\frac{1}{2}$ s $\frac{1}{2}$ y, r $\frac{1}{2}$ d $\frac{1}{2}$ Z $\frac{1}{2}$ n $\frac{1}{2}$ lft, A
 $\frac{1}{2}$ k $\frac{1}{2}$ bl e $\frac{1}{2}$ a $\frac{1}{2}$ f $\frac{1}{2}$ du e $\frac{1}{2}$ W, k $\frac{1}{2}$ d $\frac{1}{2}$ s i n $\frac{1}{2}$ f' kr f $\frac{1}{2}$ d ; k x ; k g $\frac{1}{2}$ S.

- 10- $\frac{1}{4}$ d) i Vly dh dler 4 #i; si fr ylvj dh nj lsgj N%eghuseac<jgh gA ; fn i Vly dh dler fnl Ecj 2011 ea 'x' #i; sgkrFlk i Vly dk orZku eV, 'y' #i; sgkr rksfnl Ecj 2012 eai Vly dh dler dksn'kZsdsfy, jS[kd l ehdj.k cukb, A
- $\frac{1}{4}$ k) i Vly dh dler eayxkrkj of) dsdkj.k dbZyksklus i Vly dh txg CNG dk iz kx vkiEk dj fn; kgA CNG dk eV, i fro"lZ3 #i; sdh nj lsc<rk gA ; fn fnl Ecj 2011 ea CNG dk eV, 'a' #i; srFlk orZku eV, 'b' #i; sgkr rk fnl Ecj 2012 dk eV, Kkr djusdsfy, jS[kd l ehdj.k cukb, A
- $\frac{1}{x}$ b) ykxla)jk i Vly dh txg CNG ds iz kx lsfdu eV, ka dksn'kZk x; k gS

jS[kd l ehdj.k

mUjkeyk

- 1- $\frac{1}{4}$ d) $y=2x$
 $\frac{1}{4}$ k) $y=2 \times 35=70$
 $\frac{1}{x}$ b) LorUrk] yx l ekurk
- 1- $\frac{1}{4}$ d) $y=5x+20$
 $\frac{1}{4}$ k) $145=5x+20$
 $\Rightarrow 125=5x \quad \Rightarrow x=25$
 $\frac{1}{x}$ b) [k]k] l nHko
- 3- $\frac{1}{4}$ d) $y=30x$
 $\frac{1}{4}$ k) $30x-y+0=0$
 $\frac{1}{x}$ b) i; kZj.k l j{kk} l g; kx
- 4- $\frac{1}{4}$ d) $y=10+7(x-1)$
 $=10+7x-7$
 $y=7x+3$

¼k y=7×16+3

=112+3=115 #i;s ⇒ cdk,k jk'k = 120-115 = 5 #i;:

¼k bZkunkjh l Ppb:

5- ¼d y = x+20

¼k l g; k [kk] l nHko i; kZj.k l j{kk

6- ¼d x+y = 500

¼k l g; k l gk rkk

7- ¼d l ehjd.k

$$2(x+1)=3(y-1)-4$$

$$\Rightarrow 2x+2=3y-3-4$$

$$\Rightarrow 2x-3y+9=0$$

fcLhq(-3, +1) l ehjd.k eaj [kus ij

$$= -6 - 3 + 9 = 0 = \text{R.H.S.}$$

; g fcLhqj{kk ij fLFkr gA

¼k ft Kkl k l PpbZ oSkfud eukn'kk

8- ¼d l Ppb:

9- ¼d a=3, b=3

¼k gk

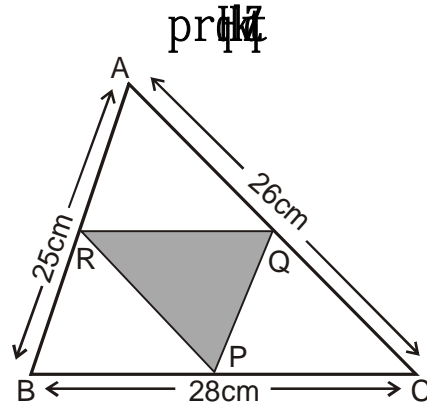
¼k oSkfud eukn'kk l PpbZ Kku

10- ¼d y=x+8

¼k b=a+3

¼k i; kZj.k l j{kk

1-



, d f o | ky; eaf' k l k funs' ky; dsvf/ k d k j; k ds v k x e u g r q N k k v k d s f k H k k d j i e a j a k y h c u k s d s d g k x; k g a f H k A B C d h f o e k j 26 c m, 28 c m o 25 c m g a Δ A B C d h H k k v k d s e /; f c l h q k d s t M e j, d f H k P Q R c u k; k x; k g S f t l d s r h u k v j, d g j l t k u k g a

¼ d ¼ g j d h y E c k Z K r d l f t; A

¼ k b l x r f o f / k } j k f d l e w, d k s n' k z k x; k g S

2- d { k e a v /; k f i d k u s p r a k t i k d h v k N f r o k y s j a h u d k x t l H h c P k a d s c k V f n, A m l u s b u l s i i j Q k S Y M k o d V x } j k l e k r j p r a k t i k c u k s d s d g k

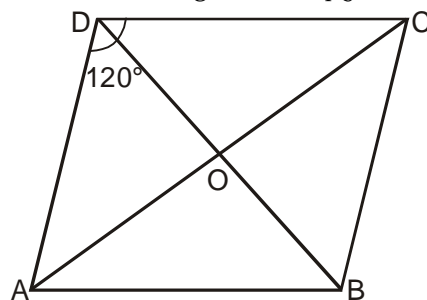
¼ d ¼ i i j Q k S Y M k } j k l e k r j p r a k t i k c u k s d h f o f / k f y f [k, A

¼ k b l) d l f t, f d c u h g b z v k N f r l e k r j p r a k t i k g a

¼ x ¼ b l e a f d u e w, k d k s n' k z k x; k g S

3- A B C D, d l e p r a k t i k g S f t l e a ∠ A D C = 120°.

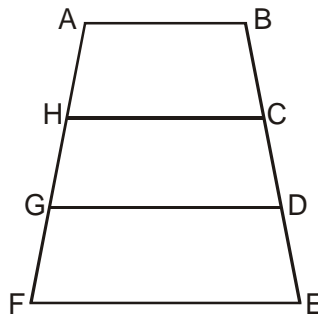
f c l h q C r f k D i j v f u' k e u d h z g a O f c l h q i j v k x y x u s d h l p u k f e y h g a



¼ d ¼ d k S d h v f u' k e u d h V r e t Y n h f c l h q O i j i g p i k, x h r f k D; k

¼ k b l x r f o f / k } j k f d u e w, d k s n' k z k x; k g S

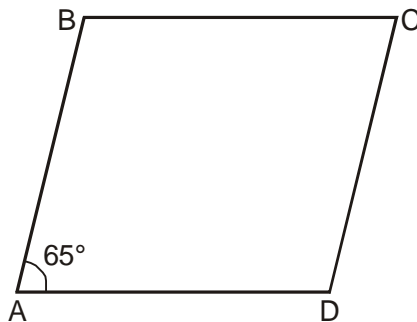
- 4- l'gu viuh v/; kfi dk dk v'kij izlv d'jusgrqmlga, d d'k'Zcukdj ns'k plgrk g' d'k'Zea leyEc ds rhu v'q' d'bl izlvj Q, of'Fkr fd, x, g' s'fd $AB \parallel HC \parallel GD \parallel FE$ r'Fk $BC=CD=DE$ o $GF=6$ l'ehA og bl d'k'Zd'k'l t'kusdsfy, , d j'xhu Vi ml dh vl ek'krj j's'k'v'ij y'x'k'uk plgrk g's'u



¼d' ml s'fdruh j'xhu Vi dh v'ko'; drk g'k's'hj ; fn $DE = 4$ cm

¼k' bl x'rfof/k }k'k' l'gu fdu e'v, k' d's'n'k'Z'k' g's'

- 5- , d fdl ku ds ikl l'ek'krj p'rh' $ABCD$ dh v'k'N'fr ok'k' {s'k' g' ml ds i'ky'r i'k'v'k'eals, d x'k' d's'l' d'ed j'k' y'x' x; k' g' ml dh m'f'p'r n's'k'k'ky' g'r'q'm'l us {s'k' ds, d d'k'us'ea'x'k' d's'c'k'k' fn; k' ; fn {s'k' ds, d d'k'us' d'k' 65° g'k's'rk'u

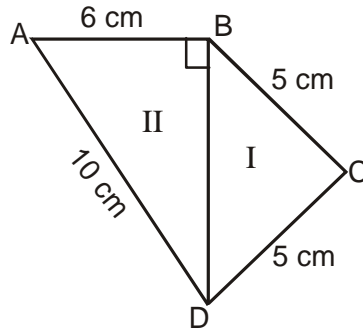


¼d' {s'k' ds rhu v'U; d's'k' k'kr' d'fj, A

¼k' ; g'k' i'z'f'kr' fd, x, e'v, c'rl'k', A

- 6- , d p'k'w'y' p'rh' ds v'k'd'j' dh g's'f't'l' dh foek; 6 l'eh 10 l'eh 5 l'eh 5 l'eh g' bl ds fod. k' }k' bl s'ns' H'k'x' k'ea'c'k'v'd'j' , d e'f'g'k' us H'k'x' I d's' ?k'j' e'a' d'k'e' d'jus' ok'y'h u'k'j'uh d's' r'Fk' H'k'x' II d's' n's' c'j'k'c'j' f'g'l'l' k'ea'c'k'v'd'j' vi'u.

Moj o ekyh dks fn; kA



¼d) D; k ; g cVojk mfpr gS rdZ}kjk Li "V dfj, A

¼k efgyk }kjk fdu eW; k dks n'kZ; k x; k gS

7- , d prHk ds xqk/keZdk fo' yšk k djrs gq d{k ea, d fo |kFZ us dgk fd prHk ds l Hh dsk vf/kd dsk ugh gk l dr u

¼d) bl mUj dks rdZ}kjk Li "V dfj, A

¼k fo |kFZ}kjk fdl eW; dks n'kZ; k x; k

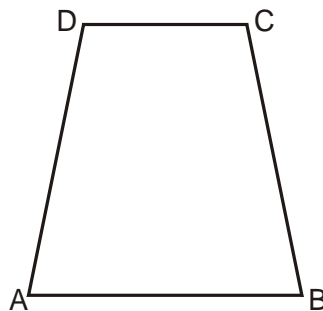
8- xf.kr dh iz k'kyk eal Hh fo |kFZ k dks fuEu yEchZds 4 rhyfn, x, 8 l eH 8 l eH 5 l eH 5 l eH fo |kFk k dks bul sfoHku izkj dsprHk cukus dks dgk x; k u

¼d) bu rfy; k dk iz k dj fdruh izkj dsprHk cukus

¼k cuusokysprHk k ds izkj fyf[k, A

¼k bl xrfof/k }kjk fo |kFZ ds fdu eW; k ds cks ea irk pyr k gS

9- , d leyEc prHk ABCD ea $DC \parallel AB$ rFk $\angle A = \angle B = 45^\circ$. v/; ki dk cPpk l s $\angle D$ dk eki Kkr djus ds fy, dgrh gS ujsk usbl dk tok 135° fn; k u



¼d) D; k ; g mUj l gh gS rdZnsj Li "V djA

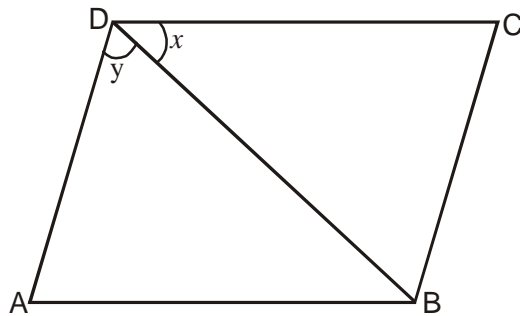
¼k bl eafdu eW; k dks n'kZ; k x; k gS

10- d{k eal ekrj prf d xq/ezdh ppZdsnlsku v/; kfi dkv kus $\angle x$ o $\angle y$ d: cp l EcUk iWk l ekrj prf ea $\angle x$ o $\angle y$ fp=k }kjk n'kZ x, gA v/; kfi dk usbl ds rhu fodYi fn, μ

(i) $x > y$

(ii) $x < y$

(iii) $x = y$



chuk usbl dk mUkj $x < y$ fn; k μ

¼d) D; k ; g mUkj l gh gS

¼k bl mUkj dks rdZ }kjk fl) dfj, A

¼k bl eachuk ds dki l seW; dks n'kZ k x; k gS

prf

mUjkeyk

1- ¼d) $RQ \parallel BC$ rFkk $RQ = \frac{1}{2} BC$

¼e/; fclhqis }kjk

$\Rightarrow RQ = 14 \text{ cm}$

$QP = 12.5 \text{ cm}$

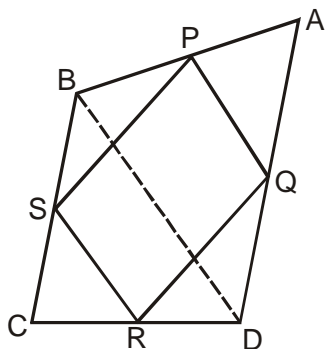
$PR = 13 \text{ cm}$

ifjeki = $14 + 12.5 + 13$

= 39.5 cm

¼k l qjrk [kk] lg; kA

2-



¼d) pñk dse/; fclhvk dskfeykusijA

¼k $\triangle ABD$ eaP, AB dk rFk Q, AD dk e/; fclhvgA

$$\therefore PQ \parallel BD \text{ \& } PQ = \frac{1}{2}BD \dots\dots\dots(i) \quad \text{¼e/; fclhqiz } \downarrow$$

$$\text{bl hizkj } RS \parallel BD \text{ rFk } RS = \frac{1}{2}BD \dots\dots(ii)$$

(i) vls (ii) l:

PQRS, d lekrj pñk gA

¼k ftKk k [kk] oSkud euk'k

3- ¼d) D Vhe igysigpshA

$\angle ODC = 60^\circ, \angle OCD = 30^\circ \Rightarrow OC > OD$ ¼M dsk ds l keusokyf
Hqk cM gsh gA

¼k bZunkjh l sykadh l ok djuk

4- ¼d) **AB \parallel HC \parallel GD \parallel FE**

rFk **BC = CD = DE**

\Rightarrow **AH = HG = GF**

¼hu l eUrj js{k ; ; fn , d fr; Zl js{k ij l eku vUr% [k M cukrh gSrksnwjt
fr; Zl js{k ij Hh l eku vUr% [k M cu&š

$$\begin{aligned} \therefore AF+FE &= 18+12 \\ &= 30 \text{ l eł} \end{aligned}$$

¼k [k] l ĩjrk Klu

$$\begin{aligned} 5- \text{¼d} \angle A &= \angle C = 65^\circ \\ \angle B &= 180^\circ - 65^\circ \\ &= 115^\circ = \angle D \end{aligned}$$

¼k l gk rkkZ gsd dh l gk rk dsfy, rRj jguk

6- ¼d cVojk l gh Fk

$$\begin{aligned} \text{¼k } BD &= \sqrt{AD^2 - AB^2} = \sqrt{100 - 36} = \sqrt{64} \\ BD &= 8 \text{ l eł} \end{aligned}$$

$$\begin{aligned} \text{ks } (ABD) &= \frac{1}{2} \times 6 \times 8 \\ &= 24 \text{ oxZl eł} \end{aligned}$$

ΔBCD dk {kQy

$$S = \frac{a+b+c}{2} = \frac{5+5+8}{2}$$

$$\begin{aligned} \text{{kQy} &= \sqrt{9 \times (9-5) \times (9-5) \times (9-8)} \\ &= \sqrt{9 \times 4 \times 4 \times 1} \\ &= 12 \text{ oxZl eł} \end{aligned}$$

¼k l gk rkkZ l ekurk

7- ¼d) ; fn $\angle A = 91^\circ$, $\angle B = 91^\circ$, $\angle C = 91^\circ$ rks $\angle D < 90^\circ$

$$\therefore \angle A + \angle B + \angle C + \angle D = 360^\circ$$

¼k oSkfud euk'kk Kku

8- ¼d) rhu izkj ds pr~~h~~ cu~~x~~

¼k vk,r] lekUj pr~~h~~] irx

¼x) oSkfud euk'kk ft Kkl k

9- ¼d) **DC || AB**

$$\Rightarrow \angle A + \angle D = 180^\circ$$

$$\Rightarrow \angle D = 180^\circ - 45^\circ = 135^\circ$$

¼k oSkfud euk'kk l Ppb

10- ¼d) gk

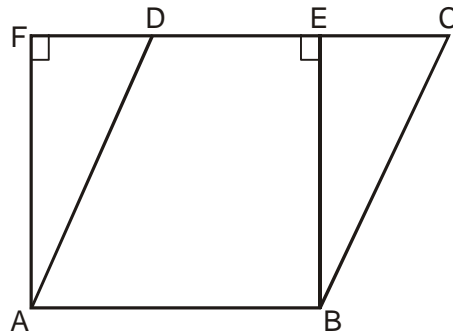
¼k $\angle ADB = \angle DBC = y$ ¼ dkj dsk

D; kd $BC < CD \therefore x < y$

¼x) l Ppb

f-kk o l ekUrj prkk dk {skQy

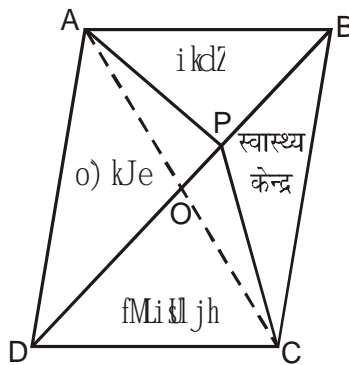
- 1- vknokl h yk dh l gk rkkZ, d dY; k k l feR }kjk f'kVi esy dk vk; k u fd; k x; k bl eaiMy dkl t kusdsfy, pjkavj cYc dh yMyxkZt kuh gA bl s; k rk , d vk; rkdj esku dspjkavj yxkugS; k l ekUrj prkk ABCD dspjkavj A ; fn nku prkk dk {skQy leku gSrk



¼d) nku eal s d h vkNfr p usij U; wre [kZgk o D; k

¼k bl eafdu eW; k dks n'kZ k x; k gS

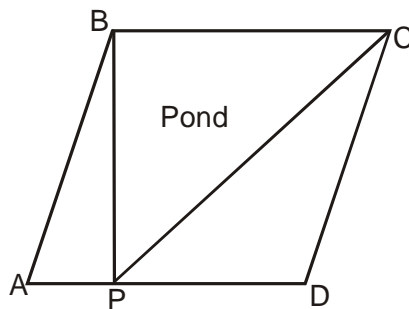
- 2- , d tehu l ekUrj prkk ABCD dh vkNfr ds: i eagA bl tehu dkefyd ; gk o) kJe fMi:lj LokLF; d hzo ikZcuk pgrk gA vkNfr nsh fclhqP, fod. k BD ij dkZfclhqA



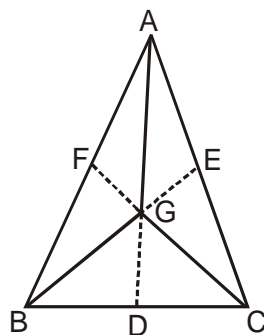
¼d) fl) dft, fd o) kJe o fMi:lj dskjcj dh tehu nh xbZgA

¼k tehu dsefyd }kjk dki lseW; n'kZ x, gS

- 3- , d dlyh dsykl [kyhtehu dkyk dM Qdusdsfy, blreky dj jgsFA t\$ k fd fp=kean'kZ,kx;kg dlyh dsy kausfeydj ;gk, d f-Hk kdj rkyk cuku: dkfu'p; fd;A ;g tehu , d lekrj prH ABCD ds: i eaFA rkyk cuku: dsck cdh cpsfgL sij vSk/hr, iM-mxk, x, A ;fn lekrj prH dk {skQy 200 oxZeh gsrku



- ¼d) vSk/hr, iM-yxk, t kusokyhtehu dk dy {skQy Kkr dfj, A ¼k dlyh dsfuokl ; k}jk dS& k eV, n'kZ,kx; k gS
- 4- fo |ky; ea^l oZ' k{k vfk, ku* dsvUrZ , d jyh vk, ktr dhxbA l Hh fo |kfk, k dsukjsfy [kusdsfy, xÜsdh f-Hk kdj 'kV nhxbA t\$ k fd fp=kean'kZ,kx; k g mGusf-Hk dh ek/; dk ; [kpdj ml srhu cjkcj {skQy okysf-Hk keackW fn; kA



- ¼d) fl) dlft, ΔAGC dk {skQy}¼ ΔAGB dk {skQy}¼ ΔBGC dk {skQy} = $\frac{1}{3}$ ΔABC dk {skQy}
- ¼k bl xfrfof/k }jk fo |kfk dS l seV, n'kZ,sgS

5- , d fdl ku dsikl oxkZlj tehu gSftl ij og , d gh le; eaihp vvx&vyx Qly mxkuk plgrk gA og tehu dse/; Hkx ea xgwcuk plgrk gS ;g {sk dy {skQy dk vk/kk gA cdh plj cjkj f-Hk kdkj Hkx ea og vvx&vyx Qly; mxkuk plg jgk gA

¼d) vkNfr }jkk n'k, fd og viusmís; dskfdl izlj ijk dj l drk gS

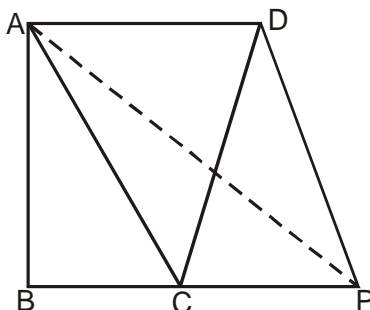
¼k Qly dsfofue; }jkk fdl ku fdu eW, k dsk inf'kr djrk gS

6- , d xlp eaprh ABCD dh vkNfr okyh, d tehu gA xlp eal lekt d dk ØelarEk i pk r dh cSclskvk; ftr djusdsfy, l jip bl Hke ij iDdk bZadk Q'Zcuokuk plgrsgijUrqikl gh cpadsfy, ikZcuusdsdj.k mlgusQ'Zf-Hk ds vdkj dk cucusdk fu'p; fd; kA ;fn AC || DP gkrk

¼d) fl) dft, μ

$$\{ks [\square ABCD] = \{ks [\triangle ABP]$$

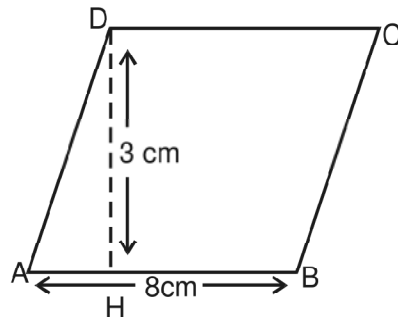
¼k ;gk fdu eW, k dsk n'kZk tk jgk gS



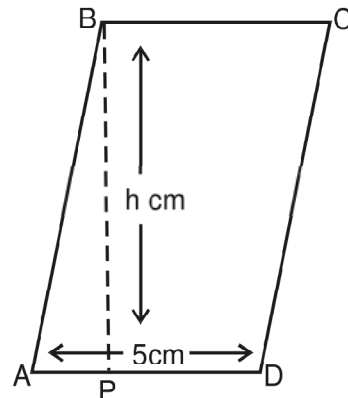
7- ^jkVh, v[kMrkfnol ** dsvolj ij d{kkuohdsNek, d i kVj cukuk plgrsgA ;g i kVj lekrj prh ds vdkj dk gSftlscjkj {skQy okyspkj f-Hk kae cWk tk, xk rfk i, d f-Hk ij foHku /leZ}jk crkZxbZf'k'k; jfy[kh tk, xhA ¼d) Nk i kVj dskleu {skQy okyspkj f-Hk kae fdl izlj cWk viusmij dsfy, rdZnft, A

¼k ;gk n'kZ x, eW, crk, A

- 8- xf.kr dh v/; fi dk usNk ds nks l eg ds l ek rj pr qd ds v k d j dk , d & d x l s dk v d m fn; k i E l eg us m l v d m dk { s k y AB dk v k l j e k d j K r d j u k g s r F k m l m ū j dk i z k d j d s n v j s l e g u s v k l j DA d s l x r ' k i ' E c dk e k u K r d j u k g s u



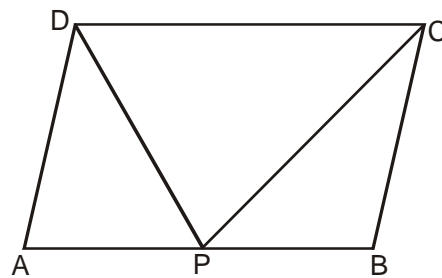
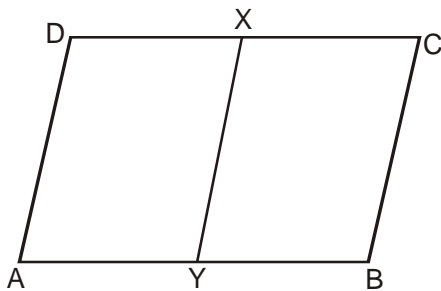
l eg (I)



l eg (II)

¼ d l eg II ' k i ' E c ' h ' dk e k u f d l i z l j K r d j s k
¼ k ; g k f d u e v ; k d k n ' k z k x ; k g s

- 9- xf.kr dh , d v/; fi dk us nks Nk ds l e k u e k i o k y s l e k r j pr qd d k v d j fn, r F k m u l s d g k x ; k f d b l e a l s l e k r j pr qd ds v k l s { s k y o k y h v N f r d k v d j v y x d l f t , A

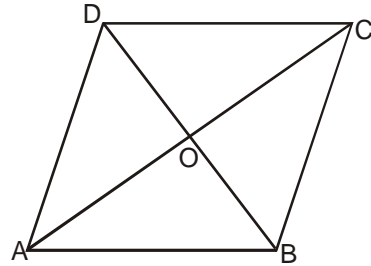


l q h r k u s H k v l s CD r F k AB d s e / ;
f c l h y l a d s f e y k d j v i u k m ū j i z r q f d ; k
{ s [□ ABCD] = 2 × { s (AYXD)

j k u u s H k AB i j f c l h q P y d j m l :
C r F k D l s f e y k ; k r F k m ū j fn ; k
{ s [□ ABCD] = 2 × { s (Δ PC)

¼ d l c r k b , f d n k u e a l s f d l dk m ū j l g h g s v i u s m ū j d h i q v d l f t , A
¼ k ; g k n ' k z k x , e v ; c r k b , A

- 10- $\square ABCD$ es fod. $\angle AC = 8$ l eh r $AO = 4$ l eh
 ; g d fu fdl e v, dks n' k k g s
 1/4 k l g; k
 1/4 k l g; k
 1/4 k l g; k
 vius m k j dh i f' V dft, A



f- k k o l e k r j p r k k d k { k k y
m k j e k y k

- 1- 1/4 k v k r D; k d
 v k r d k i f e k i < l e k r j p r k k d s i f e k i A
 1/4 k l g; k l g; k r k k
 2- 1/4 k AC d k s f e y k b,
 fod. $\angle AC$ o BD d k s f c h q O l e f } H w t r d j r k g A

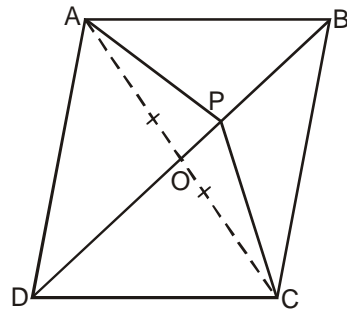
$\therefore AO = OC$ r $BO = OD$

APC es PO e k /; d k g'

$\therefore \triangle APO$ d k { k k y = $\triangle PCO$ d k { k k y (i)

1/4 k /; d k f- k k d k s j k j { k k y

o k y f- k k l e a c k / r h g s



bl h i z k j

$\triangle ADC$ es DO e k /; d k g'

$\Rightarrow \triangle ADO$ d k { k s = $\triangle DCO$ d k { k s (ii)

(i) v k s (ii) d k s t k m s i j

$\triangle APO$ d k { k s + $\triangle ADO$ d k { k s = $\triangle PCO$ d k { k s + $\triangle DCO$ d k { k s

$\Rightarrow \triangle ADP$ d k { k s = $\triangle DPC$ d k { k s

1/4 k l g; k r k k l k k l n k k o

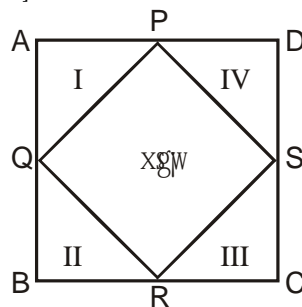
3- $\frac{1}{2}$ d) 100 oxZl eł
 $\frac{1}{4}$ k i; l; j. k l g; kA

4- $\frac{1}{2}$ d) ABC eaAD ek/; dk g'
 $\Rightarrow \text{ar}(\triangle ABD) = \text{ar}(\triangle ADC)$ _____ (i)
 bl h i zkj
 $\text{ar}(\triangle GBD) = \text{ar}(\triangle GDC)$ _____ (ii)

(i) _ (ii) djusij
 $\text{ar}(\triangle GB) = \text{ar}(\triangle GC)$
 bl h i zkj
 $\text{ar}(\triangle GB) = \text{ar}(\triangle GC) = \text{ar}(\triangle GBC)$

$\frac{1}{4}$ k l g; k l nHko

5- $\frac{1}{2}$ d)



e/; fclny k ds feyk d jA

$\frac{1}{4}$ k feêh dh xql o k c < r h g s i; l; j. k l g; k l kA

6- $\frac{1}{2}$ d) fn; k gS $AC \parallel DP$

$\Rightarrow \triangle(ADC) \text{ dk } \{s\} = \triangle APC \text{ dk } \{s\}$
 $\frac{1}{4}$ eku vk/kj AC rFlk l eku l eł rj j s k v k AC
 v s DP ds chp cuusokys f-Hk k ds {s} Qy l eku
 g k s
 nk k v s $\triangle ABC$ dk {s} t k s i j
 $\triangle ADC \text{ dk } \{s\} + \triangle ABC \text{ dk } \{s\} = \triangle APC \text{ dk } \{s\} + \triangle ABC \text{ dk } \{s\}$
 $\Rightarrow (\text{ABCD dk } \{s\}) = \triangle ABP \text{ dk } \{s\}$

$\frac{1}{4}$ k i; l; j. k l g; k l n w j k ds fopkj k ds i fr v k n j A

- 7- $\frac{1}{4}$ d) l ekUrj pr~~ij~~ dsfod. kZml spkj l eku {skQy okysf=~~Ht~~ k eaclWrs gA
 $\frac{1}{4}$ k jkVft , drk HkZkj k l g; kA
- 8- $\frac{1}{4}$ d) l ekUrj pr~~ij~~ ABCD dk {skQyA

$$AB \times DH = AD \times BP$$

$$8 \times 3 = 5 \times h$$

$$\frac{8 \times 3}{5} = h$$

$$\frac{24}{5} = h$$

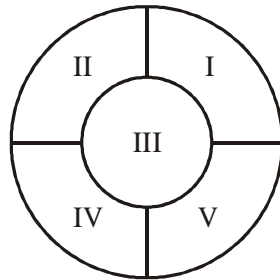
$$h = 4.8 \text{ cm.}$$

$\frac{1}{4}$ k oSkfud euk'kk l g; kA

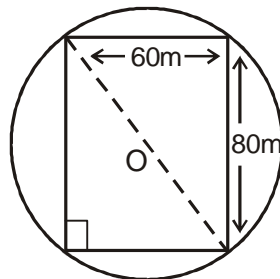
- 9- $\frac{1}{4}$ d) nskk dk mUkj l gh gA
 $\frac{1}{4}$ k oSkfud euk'kk ft Kkl k l g; kA
- 10- ; g dFlu l PpkZdks n'kZk gA

oÙk

- 1- rhu fe=~~ka~~us3 fiTt k dk vki l eafey cW dj [kus dk Q\$ yk fd; kµ
 ¼d\ ; fn rhu fiTt k 7 l eh f=K; k ds gk rks iR, d fe=k ds feyus okys fgLl s dk
 {seQy Kkr djka
 ¼k fe=~~ka~~}kik dki lseW, n'kZ x, gS
- 2- fo|ky; eaeuk, tkjgs^ou egkH o* dsfy, fo|ky; ifjlj dsdkuseaHfe ds, d
 oÙkdj fgLl sij o{kjki.k djuk r; gykA fo|kfk, ka ds ikp legha dks, d& d
 fgLl k o{kjki.k dsfy, ¼p=k vuq kj ½fn; k x; kA

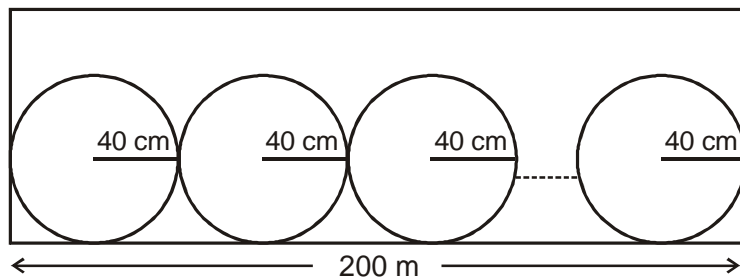


- ¼d\ fdl legha dks o{kjki.k dsfy, vf/kd {seQy feyk vls fdruk vf/kd\
 ¼Ùk dh nks f=K; k ; 210 l eh rFk 105 l eh gS
 ¼k ; gk dki lseW, n'kZ x, gS
- 3- HjrH; gWh l k us Hjr vls ikdLrku ds chp , d lnHouk e\$ dk vk k u fd; k
 ft lea, df=kr /ku , d vukFkJe dksfn; k tkukr; gykA e\$ dsfy, , d oÙkdj esku
 ea60 eh×80 eh dk VQZp=kud kj fcNk; k x; kµ

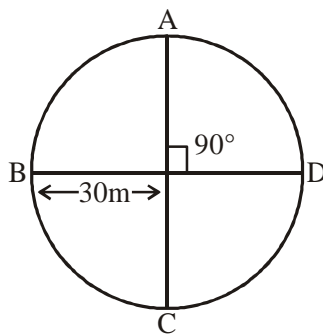


¼d\ gWh ds esku dh f=K; k Kkr dlft, A
 ¼k n'kZ x, eW, crkb, A

- 4- fdl h fo |ky; dh ckgjh nbkj dksjæ djokusdk fu. kZ fy; k x; kA bl dk; Zdsfy, nbkj ij vyx&vyx jæ dsrFkk , d gh eki 40 l eh f=kt; k okysoÜk cuk, ft u ij l fä; k rFkk l keft d l nsk fy [kx, A ; fn fo |ky; dh ckgjh nbkj 200 eh yEch gSrkü

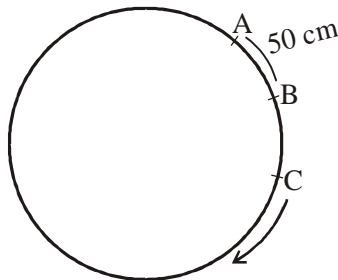


- 5- >Xh >M ea jgusokyscPpædseujsæ u grq, d oÜkdj esku ea eysdk vk, kt u fd; k x; k ft le amudsfy, fu%kd Hkt u dh Q, oLFk dh xbA Hkt u forj. k dsfy, pkj LVW A, B, C rFkk D ij fp=ku kj yxk x, µ



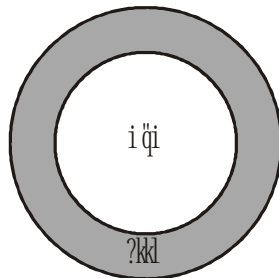
- 4- fdl g hanks vk lü LVW dschp dh nyh Kkr dlft, ; fn esku dh f=kt; k 30 eh gA
- 4- k D; k bl izkj ds v; kt u l ekt dsfy, fgrdkjh gS l ekt ea vÜ; fdu l keft d eÜk dsfy, bl izkj ds v; kt u fd, tk l drsgä

- 6- 66 fo |kFk; k adk, d l eg fidfud ij x; kA Hk u djustsfy, osik dZea#dsrFkk, d cm oUkdj ?kjs ea cB x, A ; fn iR, d fo |kFkZ nwjs fo |kFkZ l s 50 l eh dh oUkdj nyh ij cBk gSrk



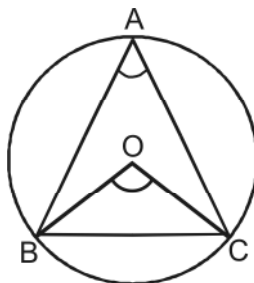
¼d) fo |kFk; k }jik cuk x, oUk dh f=T; k Kkr dj kA
¼k fo |kFk; k }jik n'kZ x, eV, crk, A

- 7- fdl h dWk h ds, d o) nEi fUk us vi us oUkdj Hk M dks fodl r djustk Q\$ yk fd; kA bl dk; Zea mudh enn grq dWk h ds cPps vks vk, A fp=kud kj oUkdj oy; ij ?kkl yxbZxbZ ; fn oUk dh f=T; k ; 245 l eh rFkk 210 l eh gSrk



¼d) fdrus {skQy ij ?kkl yxbZxbZ
¼k cPps }jik n'kZ x, eV, crk, A

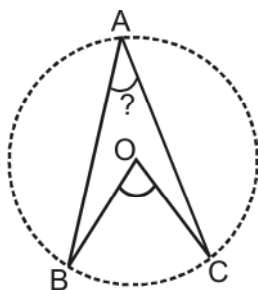
- 8- fodyk Q fä; k }jik l pkyr rhu STD cFk fp=kud kj fclhq A, B rFkk C ij LFk ir fd, x, A ; srhuk, d nwjs l sl enj LFk gSrk



1/4) $\angle BOC$ dh eki Kkr dlft, A

1/4) vki dsfopkj eafodyk dskj kxj ds vol j mi yC/k djuk D; k l ekt dh izfr dsfy, fgrdkjh gS viusmUj dh l ehkk dlft, A

- 9- xf.kr dh izskRed xrfof/k dsnkshu Nk oUkdj ^ft; kskM* dk izsk dj jg gA oUk dh fdl h pki }jk dshzj cuk x, dsk dh eki $(2a+50^\circ)$ gA l kkh u: bl h pki }jk oUk ds 'kk Hkx ij cus dsk dh eki $(a+25^\circ)$ Kkr dhA



1/4) D; k l kkh dk mUj l gh gS

1/4) $\angle BAC$ dh eki Kkr dlft, ; fn $a=30$ gA

1/4) ; gk dki l seW, n'kZ x, gA

- 10- dshzO okysoUk ea ABCD, d pOhr, prh gA

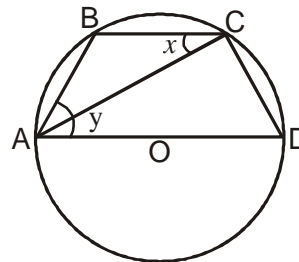
$x+y=90^\circ$; g dFku fdl eW, dsk n'kZk gSu

1/4) l kft d eW;

1/4) LorUrk

1/4) l R, 'khyrk

1/4) yx l ekurkA



viusmŭkj dh l eh{k k dlft, A

mŭkjekyk

- 1- ¼dŭ 92.4 oxZl eł ¼[k vki l h l g; kx
- 2- ¼dŭ l eg III, 8662.5 oxZl ełA ¼[k i; kŭj.k l g{k k l ŭjrkA
- 3- ¼dŭ 50 eh ¼[k l gk; rkFZ l g; kx
¼kŭ ; g /ku vukFka dsfgr dsfy, iz kx fd; k t k; kA
- 4- ¼dŭ 250 ¼[k l ŭjrk
- 5- ¼dŭ $30\sqrt{2}$ eh ¼[k gkŭ o) kJe dsy kx] vukFkJe ds cPpŭ fody kx cPps vkŭn dsfy, A
- 6- ¼dŭ 5.25 eh ¼[k l g; kx] [kŭk
- 7- ¼dŭ 50050 oxZl eł ¼[k l gk; rkFk
- 8- ¼dŭ 120° ¼[k gk
- 9- ¼dŭ gk ¼[k 55°
¼kŭ l Ppŭŭ oKkud eukŭ'kA
- 10- l R, 'kŭyrkŭ KkuA

$$\angle ACD = 90$$

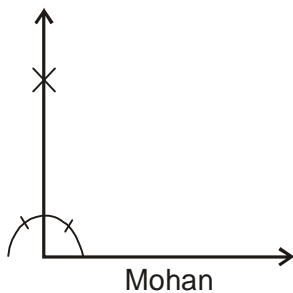
$$\angle BAD + \angle BCD = 180 \text{ ¼pŭŭ; prŭkŭ ds dskŭ}$$

$$y + x + 90 = 180$$

$$x + y = 90^\circ$$

jpuK j

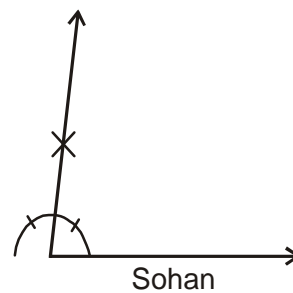
- 1- fnyh VQd ifyl ykls dks VQd fu; eadscjs eacrkus dsfy, l eckgf f-Htk ftl dh iE d Htk 5 eh gS ds vdkj dk, d ckZcuokuk plgrh gS bl f-Htk dh jpuK dja 1/4 eh dh txg l eh y 1/2 mi jka fØ; kDyki D; k eW, n'kZk gS
- 2- jke dsikl f-Htk kdj tehu gSft lea $\angle B=30^\circ$, $\angle C=90^\circ$ vS ifjeki 11 eh gS ml us; g VqMk, d o) kJe dks nku eansfn; kA bl f-Htk dh jpuK djs 1/4 eh e. Htk; ycdj 1/2; g D; k eW, n'kZk gS
- 3- , d ldy dscPpkusl QkZvH; kl dsfy, , d jyh fudkyh mlGms AB, BC vS CA eaekZfd; k ftlls, d f-Htk cuk ftl lea $BC=8\text{ m}$, $\angle B=45^\circ$ vS $AB-AC=3.5$ eh gS bl f-Htk dh jpuK djs ; g D; k eW, n'kZk gS 1/4 eh eaHtk; ; ycdj 1
- 4- , d dki gV (Co-operate) gkAl usf-Htk kdj ikdZPQR dsgjkHjk cuk, j [ku dsfy, viuk; kft lea $QR=7$ eh $\angle Q=75^\circ$ vS $PQ+PR=13$ ehA f-Htk PQR dh jpuK djs 1/4 eh, dh txg l eh ea ycdj 1/4 ; g D; k eW, n'kZk gS
- 5- xeh kokl hi 'kyk ds ikuh dsfy, , d f-Htk kdj rkyk cuokuk plgrsgA rkyk dh Htk; a5 eh vS 12 eh gSrFk muds chp dk dsk 90° gSbl dh jpuK djs 1/4 eh, dh txg l eh ea ycdj 1/4 bl fØ; kDyki lsvki D; k eW, fudkyrs gS
- 6- eku rFk l gu us, d ledsk dh jpuK dhA l gh fodYi pqs



1/4 d eku l gh gS

1/4 k nskul l gh gS

; g D; k eW, n'kZk gS



1/4 k l gu l gh gS

1/4 k nskul xyr gS

7- dfork usvzk fo|ky; dksnku djus dsfy, , d f-Htk kdj dkyhu cuk k ft l dh Htk; a5 eh| 5 eh v|s 6 eh gA bl f-Htk dh jpuk djs 1/eh, dh txg l eh e ysdj!A mijka izu fdl eW, dksn'kzk gS

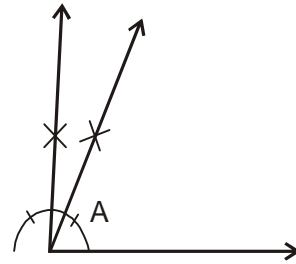
8- $\angle A$ dsfy, l gh fodYi puu

$$\frac{1}{4}d) 60 + \frac{1}{2} \times 60$$

$$\frac{1}{4}k) 60 + \frac{1}{4} \times 60$$

$$\frac{1}{8}k) 60 + \frac{1}{3} \times 60$$

$$\frac{1}{2}k) 60 + \frac{1}{5} \times 60$$



; g D; k eW, n'kzk gS

9- xjhc yskk dks lnZl s cpkus dsfy, i fjk Dyc us, d VV cuk k ft l dk njok k f-Htk kdj FkA bl dh Htk; a3 eh 4 eh v|s 5 eh gA f-Htk kdj njok sdh jpuk djk 1/eh, dh txg l eh eaysj!

bl lsvki D; k eW, fudkyrsgk

10- , d fjVk; MvkeZvQlj ds ik ledsk f-Htk ds vdkj dk Hke dk VdMk g ft l dh, d Htk 13.5 eh v|s d.kZrFk nwjh Htk dk ; kx 15.5 eh gA ml usbl : vukFkJe dksnku nsfn; kA bl f-Htk dh jpuk djs 1/4k, al eh eaysj! bu fopjk l sD; k eW, fudyrk gS

mUj ekyk

1- $\frac{1}{4}d)$ l gh jpuk

$\frac{1}{4}k)$ yskk dks mudh l j{k dsfy, ; krk, kr dsfu; eal st kx: d djuk

2- $\frac{1}{4}d)$ l gh jpuk

$\frac{1}{4}k)$ nku i fUk dks i kgr djuk

3- $\frac{1}{4}d)$ l gh jpuk

$\frac{1}{4}k)$ i ; kZj.k dks l kQ l fjk cukuk

- 4- $\frac{1}{4}$ d) l gh jpuk
 $\frac{1}{4}$ k $\frac{1}{4}$ $\frac{1}{2}$ i ; k j . k d k l k Q l k j k cukuk
 $\frac{1}{2}$ $\frac{1}{2}$ l e n k , l o k
- 5- $\frac{1}{4}$ d) l gh jpuk
 $\frac{1}{4}$ k l e k t l o k
- 6- $\frac{1}{4}$ d) e k g u l gh g'
 $\frac{1}{4}$ k l P p k Z e W,
- 7- $\frac{1}{4}$ d) l gh jpuk
 $\frac{1}{4}$ k n k u d h i n f u k d k i k l k f g r d j u k l e k t l o k
- 8- $\frac{1}{4}$ d) $60 + \frac{1}{4} \times 60$
 $\frac{1}{4}$ k l P p k Z e W,
- 9- $\frac{1}{4}$ d) l gh jpuk
 $\frac{1}{4}$ k l e n k , l o k
- 10- $\frac{1}{4}$ d) l gh jpuk
 $\frac{1}{4}$ k l e k t l o k

i "Bh; {skQy vls vk ru

1- yEc 'kldqdsvk; ru dsl w dksbl izlkj Hh fy [kk tk l drk gS

$$v = \frac{1}{3} \pi l^2 h - \frac{1}{3} \pi h^3$$

mi jkã dFku dks&l k eW; n'kzk gS

¼d) l PpbZeW;

¼k l keft d eW;

¼k) nwjã ds fopkjã dsifr vkj

¼k l ekurk

2- d{kk X ds 50 fo |kfk; kauso) kJe eatkdj ogk jgusokys o) kã dsl kfk l jk fnu
 0; rhr djusdk fu'p; fd; kã migkj dsfy, iR; d fo |kfkZuscyyukdj Qynku xÜk
 l scuk; kã iR; d Qynku dks 4.2 cm f=kt; k vls 11.2 cm ÄpbZdk gsk gS

¼d) 20 #i; siR; 100 m² dsnj l sxÜk [kjmusij fo |kfk; kã ds fdruk 0; djuk
 iMkk

¼k fo |kfk; kã} jk dks&l k eW; n'kzk x; k gS

3- NSS dsLo; al od kausck+i Hkfor {sk eafrijky l scus'kldqdsvkldj ds, d rã
 dksyxk; kã rãwdh ÄpbZ4 m rFk ml ds vk/kj dk 0; kl 6 m gS

¼d) 1.5 m pM; frjiky dh fdruh yEckbZyxsh\ ; g ekudj pfy, fd bl dh
 fl ykbZvls dVbZeã 10% frjiky vfrjä yxxk ($\pi=3.14$ dk izk dft, A)

¼k Lo; al od dks l seW; n'kzsgS

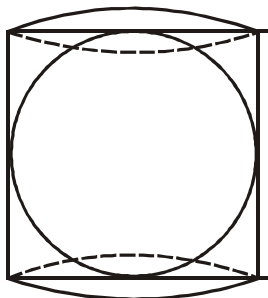
4- fdl hxgs [kpsxis dks i q% pØ. k lykLVd l scus 50 [kkkys 'klykã l sfuekZk LFky
 l svyx fd; kx; k gS iR; d 'kldqdsvk/kj dk 0; kl 40 cm gSvls ÄpbZ1 m gS

¼d) ; fn bu 'klykã dh cgh i "Bã dksiW djokuk gSvls iW dh nj 12 #i; siR;
 m² gS rks budksiW djkuseafdruh ykr vk xh

$$(\pi=3.14 \text{ vls } \sqrt{1.04} = 1.02 \text{ dk izk dft,)}$$

¼k eW; kã dk ule crkb, A

- 5- QDVjh dsekfyd v'ouh viusl Hh deZkj; kcdsl tk gyk xlyk HW eansuk plgrk gA xlys dk Q kl $(2a+5)$ cm gA l tsgq xlys dks yEc oUkr; cyu] t k xlys dk i wZ; k ?ksgq gS eaiSl fd; k x; k gA ½nk[k, vkNfr½; fn cyu dh ApkZ21 cm gSrk



¼d' 'a' dk eku Kkr dlft, A

¼k xlys dk i "Bh; {kQy Kkr dlft, A

¼x' v'ouh }kjk n'kZ eW; crk, A

- 6- , d vlok h; dkWsh dh tul f; k 5400 gSi frnu i fr Q fa dh 60 yWj i kuh dh vko'; drk gA o"KZdsi kuh dk l gh mi; k djusdsfy, fuokl h ml dk l j{k k djuk plgrsgA ty l j{k k dsfy, $48\text{ m} \times 27\text{ m} \times 25\text{ m}$ eki kokyh, d Valh cukbZxbA ¼d' Valh dk i kuh fdrusfnu dsfy, i; kZr gkx; fn o"KZdsl e; Valh eaty Lrj dh ApkZ5 m gA

¼k Q fa; kcdsl eg }kjk n'kZ x, eW; crk, A

- 7- , d vLirky ds, d jkxh dks i frnu 7 cm Q kl okys, d cyukdkj dVjseal w (soup) fn; k tkrk gA fdl h, d fnu dU; k egfo|ky; dh dU; kvkous; g r; fd; k fd og jkx; kcdsfy, l w cuk xhA ; fn og dVjkl w l s5 cm ApkZrd Hjrh gS rk bl vLirky ea300 jkx; kcdsfy, ml fnu fdruk l w rS kj fd; k x; k gS

dU; kvk }kjk dks l k eW; n'kZ k x; k gS

- 8- fdl h l k k; Vh eajgusokys fuokl ; kous vgrseafLkr ^da j funku dsh* ds gk w dksiV djusdk fu'p; fd; kA ; fn vk; rkdj gk w ds Q'kZdk ifjeki 250 m gSrk

ApkZ6 m gk rku

1/4 d) 8 #i; sifr m² dh nj l spjkanhojkij iV ykus dh ykr Kkr dlft, A
1/4 k fuokl h dks&l k eV, n'kZsg&

9- l qh/hj plnek rFk i Foh ds Q kl ds chp l EcUk Kkr djuk plgrh g& mi yC/k
vkdMals; g irk gSfd i Foh dk vk; ru plnek ds vk; ru dk 64 xqk g& l qh/hk
bl fu"d"Zij i gph fd plnek dk Q kl i Foh ds Q kl dk yxHx , d&pk&Zg&
1/4 d) ml ds dFku dks fl) dlft, A

1/4 k bl iz kx }jk l qh/hk dks&l k eV, n'kZhg&

10- Jheku rFk Jherh ješk v&k fo |ky; ds 100 fo |kFk, kean&k forfjr djuk plgr:
g& forj.k ds fy, nks fodYi g&

fodYi A : i; kZj.k 10.5 f=kt; k okyk v/kZxlyk

fodYi B : Iy kLVd dk 7 cm f=kt; k okyk v/kZxlyk&

1/4 d) fodYi A eafdrusyHj n&k dh vko'; drk g&

1/4 k fodYi B eady fdrusyHj n&k dh vko'; drk g&

1/4 d) Jheku rFk Jherh ješk us fodYi A dks forj.k ds fy, p&k& muds }jk
dks&l k eV, n'kZk x; k g&

mUjekyll

1- 1/4 d)

2- 1/4 d) Rs. 3511.20

1/4 k l k&ft d eV, | l g; kx] o) y&k& dh n&kHkyA

3- 1/4 d) y&cbZ= 34.54 m

1/4 k l k&ft d eV, | l gk, rFk

4- 1/4 d) dy eV, = 384.34 #i,

1/4 k i; kZj.k l j{k} l k&ft d eV,

5- $\frac{1}{4}$ d) 8

$\frac{1}{4}$ k) xkysdk i "Bh" {skQy = 1386 cm²

$\frac{1}{2}$ k) l kft d l ket L;

6- $\frac{1}{4}$ d) dy fmu = 20 fmu

$\frac{1}{4}$ k) l g; k) l gk rkk i; k) k l j (k

7- $\frac{1}{4}$ d) 57.750 l

$\frac{1}{4}$ k) l kft d l ket L;) [kk

8- $\frac{1}{4}$ d) Rs. 12000

$\frac{1}{4}$ k) Rs. 240

$\frac{1}{2}$ k) l g; k) l kft d eV,) l ket L;

9- $\frac{1}{4}$ d) /kjrhd k vk ru = 64 \times plhæk dk vk ru

$$\frac{3}{4}\pi R_1^3 = 64 \times \frac{4}{3}\pi R_2^3$$

$$\Rightarrow R_1^3 = (4R_2)^3$$

$$\Rightarrow (2R_1)^3 = (4 \times 2R_2)^3$$

$$\Rightarrow (D_1)^3 = (4D_2)^3$$

$$D_1 = 4D_2$$

$$\frac{1}{4} \times \frac{1}{4} \text{jrhd k Q, kl } \frac{1}{2} = \text{plhæk dk Q, kl}$$

$\frac{1}{4}$ k) ft Kkl k) t kusdh Hkouk) oSkfud eukn'kk

$\frac{1}{2}$ k) 242 litres

$\frac{1}{4}$ c) 71.9 yhwj

$\frac{1}{4}$ d) i; k) k l j (k) l kft d eV, A

1 k[; dh

1- , d fo |ky; eayxrkj 6 o"krd fo |kfk, kd h l d; k fuEufyf[kr Fku

o"k	2000	2001	2002	2003	2004	2005
fo kfk, kd h l d; k	1620	2060	2540	3250	3500	3710

¼d) mijkä vldMa dk ek/; Kkr djka

¼k) mijkä vldMa dk n.M vkyšk cukvka

¼x) mijkä izu D; k eV, inf kr djrk gS

2- fi Nys 100 o"kr eaHkr eackk dh fuEufyf[kr fLFkr Fku

o"k	1900	1960	2002	2007
ck?kd h l d; k	40,000	18,000	3,642	1,411

¼d) mijkä vldMa dk , d n.M vkyšk cukvka

¼k) mijkä izu fdl eV, dksn'kZk gS

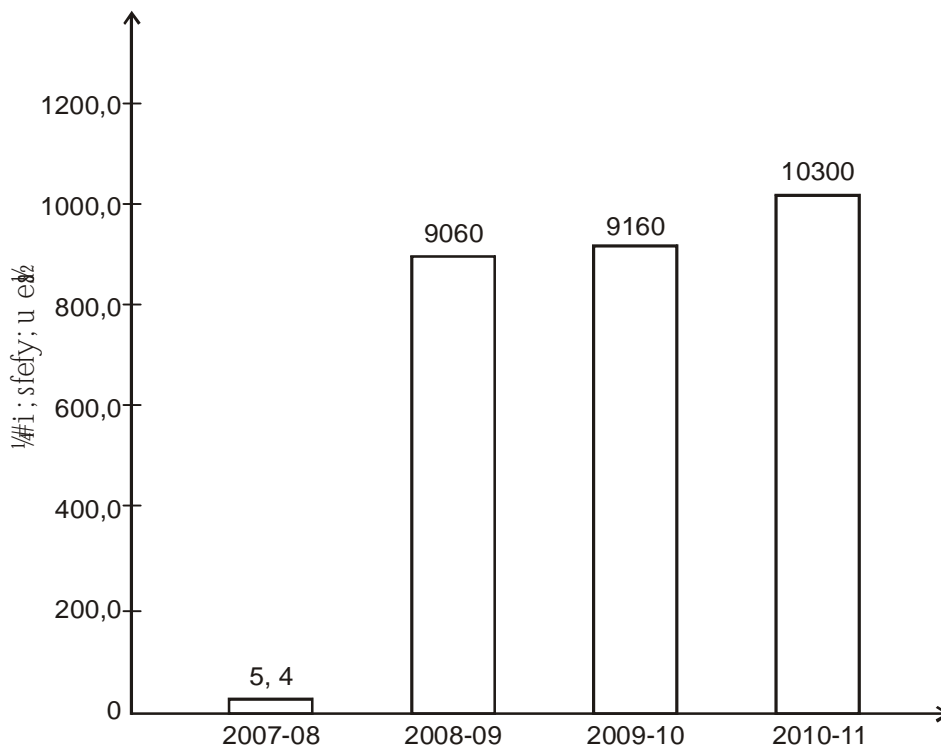
3- fuEufyf[kr vldM-1998-99 ls 2002-03 rd Hkr }jk pdk x, .k ¼gt kj
djM#i; se½dksn'kZk gS

o"k	1998-99	99-2000	2000-01	2001-02	2002-03
.k	70	84	98	106	120
¼gt kj djM#i; \$					

¼d) mijkä vldMa dk ckEckjrk cgt, A

¼k) mijkä vldM lsvki D; k eV, fudkyrs gk

4- fuEu n.Mvks{kfnYyh ljdkj }kjkYMyh; kt uk ij cuk, x, ctV dksn'kzk gS



vuek fur ctV

; kt uk tuojh 2008 ea'k# gqA

¼d) fdl o'kZea ctV l cl s de Fk\

¼k) fdl o'kZea ctV l cl svf/kd Fk\

¼x) mijka n.Mvks{k lsD; k eV; inf kr gk k gS

5- ou egld o dsn'ku 25 fo|ky; kealsi E, d fo|ky; ea 25 i kls yxk, x, A, d eghusckn yxk, x, i kls ea l scp x, i kls dh l d; k fuEu Fk\

16	20	23	10	6
10	12	7	9	15
15	22	11	13	21
17	9	4	10	12
20	15	18	18	22

¼d) bu vld M dks, d ckj E ckj rk cV u l k j. k ds: i ea i Z r d h t, A (0-5 dko x' v r j k y y d j)

¼k) mijka f0; k dyki D; k eV; n'kzk gS

- 6- 10 fo|kfk, kdk, d leg vak fo|ky; x; kA ogk nku ea i R, d fo|kfkZus 100, 120, 125, 50, 75, 100, 150, 100, 75, 85 #i; sfn, A

¼d) bu vldMa dk ek/;] cgyd rFk ek/; dk Kkr djka

¼k) mijka lsvki D; k eW, fudkyrsgk

- 7- fuEufyf[kr vldM-fnyh ea 2001 ls 2010 rd fctyh dh [kir n'kZsgu

o"k	2001	2005	2006	2009	2010
fctyh dh [kir vldM-fnyh ea	2831	3490	3626	4408	4581

- 8- fuEufyf[kr vldM-Hkr eafM fFkj; k ds dñ vls fM fFkj; k dh otg lsgk isokyt eR, qdks n'kZsgu

o"k	2005	2006	2007	2008	2009
fM fFkj; k dñ	47	50	45	190	340
fM fFkj; k ds dkj. k eR, i	1	0	0	30	82

fuEufyf[kr izukadk mUj nku

¼d) fdl o"Z eafM fFkj; k ds dñ l cl s de Fk

¼k) fdl o"Z eafM fFkj; k ds dkj. k dñ ZHh eR, qughghZ

¼x) mijka vldM-D; k eW, n'kZsgu

- 9- fuEufyf[kr vldM-Hkr eadkyh [k h (Whoopig cough) dks n'kZsgu

o"k	2005-06	2006-07	2007-08	2008-09	2009-10
dñ	470	50	30	60	826

¼d) mijka vldMa dk ckj Eekjrk cgh, cukvka

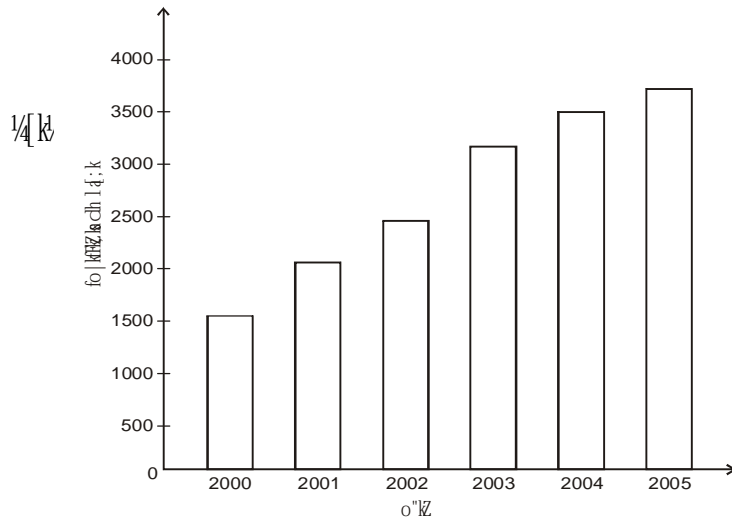
¼k) mijka vldM-D; k eW, infkr djrs gk

- 10- 10 Q, fa; kals; g iw kx; kfd viusl enk, dsl kekt d dk Zdjuseaos, d l Irkg eafdruk l e; nrs gk mudk dguk gS Oe'k 10, 7, 13, 10, 20, 15, 10, 14, 12, 16 ?k VA, d l Irkg eamuds } jk l kekt d dk Zeayxk, x, l e; dk ek/; cgyd rFk ek/; dk Kkr djka

mijka izu lsvki D; k eW, fudkyrsgk

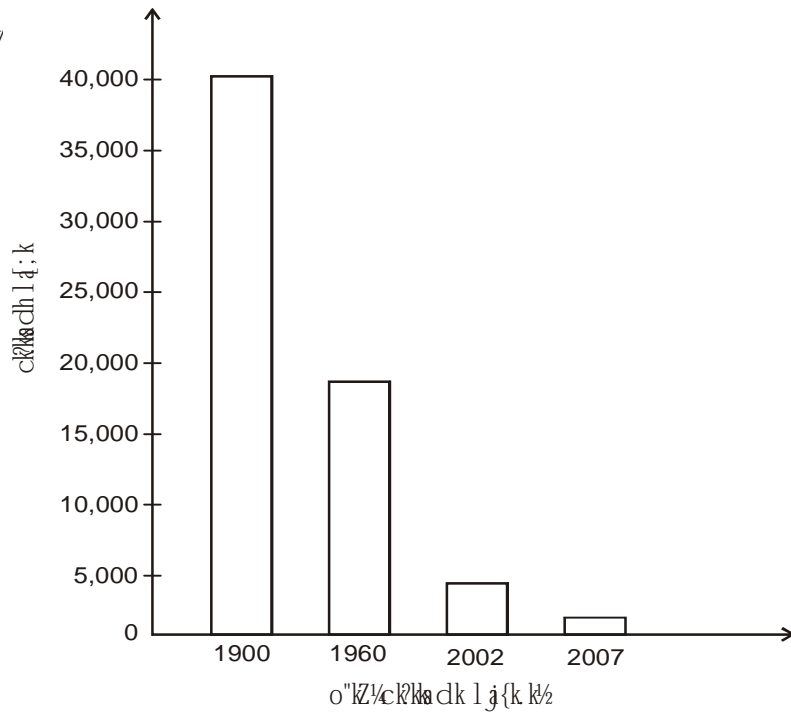
mŭjeyk

1- ¼dŭ 2780



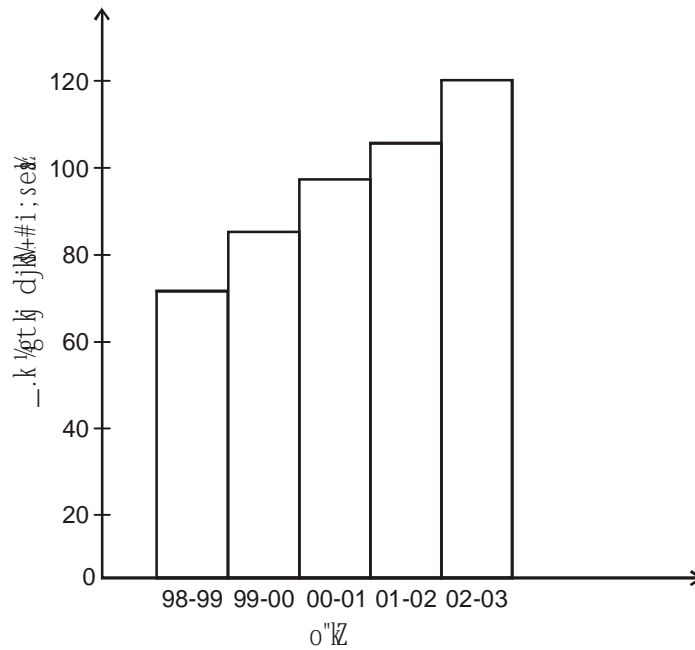
¼xŭ f'kŭk dsifr tkx: drkA

2- ¼dŭ



¼k ckd; cpkvs ¼j{krk

3- ¼d)



¼k geavRefuH; gksdk izkl djuk pfg; A

4- ¼d) 2007-08 eactV lclsde FkA

¼k 2010-11 eactV lclsvf/kd FkA

¼k (i) yMd; kdk cpuk

(ii) LdykaeyMd; k dh l d; k eac<klj

(iii) ekrk fi rk eafl QZyMh gksdh vl j{kk dks de djukA

5- ¼d) oxZvUrjky

i k dh l d; k

0-5

1

5-10

4

10-15

7

15-20

7

20-25

6

¼k o{kkj.k lsiFoh dh l j{kk

6- ¼d) 50, 75, 75, 85, 100, 100, 120, 125, 150

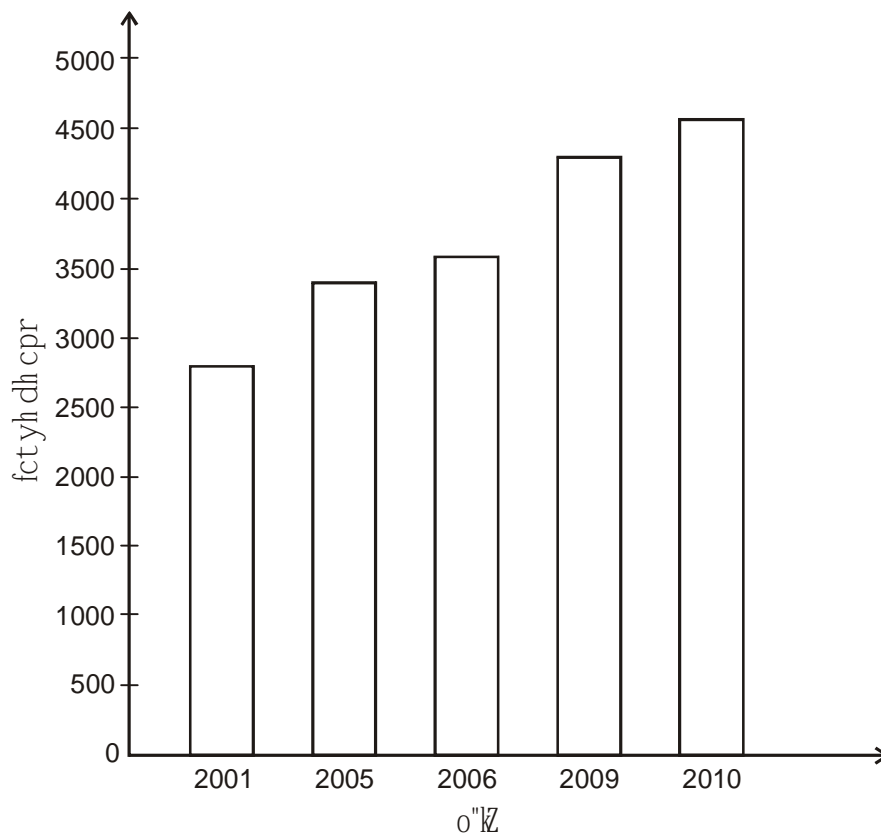
ek; = 98

cgyd = 100

ek; d = 100

¼k l kft d dk, kdsfy, nku nsis dh vlnrA

7- ¼d)



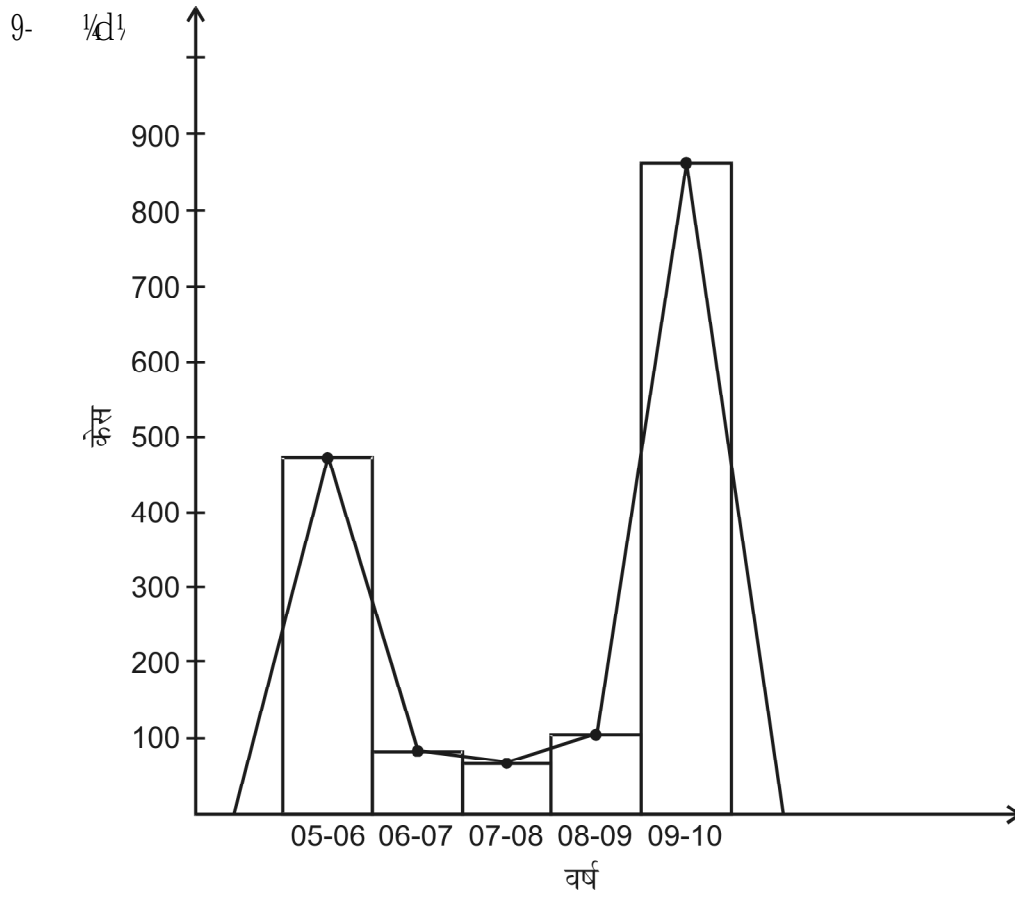
¼k fctyh dh cpr

8- ¼d) 2007 eafM fFkj; k dh cekjh l cl sde FkA

¼k 2006 rFk 2007 eafM fFkj; k dkj.k dkZeR, qughghA

¼k (i) Vhdkj.k dk, Ze ds Bhd l sykwdjukA

(ii) l ekt l sk



¼k (i) Vhdkj.k dk Øe dk Bhd l sykw djuk

(ii) l ek l sk

10- ¼d vjgh Øe eaj[kusijµ

7, 10, 10, 10, 12, 13, 14, 15, 16, 20

ek; = 12.7

cggd = 10

ek; d = 12.5

¼k l ek l sk

i f; drk

- 1- 2 cPp~~ok~~ys 1500 ifjokj~~adk~~; kPN; k p; u fd; k x; k gSv~~l~~ fuEufyf[kr v~~ad~~M
fy[k fy, x, gS_u

ifjokj aeay Md; k adh l q ; k	2	1	0
ifjokj adh l q ; k	800	500	200

¼d_l ml ifjokj dh i f; drk Kkr djaft l eank~~y~~Md; k g~~l~~
¼k_l bu v~~ad~~M~~al~~ sD; k l h[k feyrh gS
- 2- LorU~~rk~~fnol dsvol j ij 1200 fo |kFk; k~~aeal~~ s900 fo |kFk; k~~ausdk~~; Øe eaH~~kk~~
fy; k_u

¼d_l LorU~~rk~~fnol eaH~~kk~~ y~~usokys~~fo |kFk; k~~adh~~ i f; drk Kkr dja~~A~~
¼k_l bul sD; k e~~v~~; fudyrk gS
- 3- l hrk dgrh gSfd 'kn 'MADAM' eaM rFk 'A' dh i f; drk cjkcj g~~A~~ D; k og
l gh gS

bl l sD; k e~~v~~; fudyrk gS
- 4- 1000 ifjokj~~aeal~~ s750 ifjokj~~adk~~, d cPp~~ok~~gSrFk c~~adh~~ dk nscPp~~ok~~yk ifjokj
g~~A~~ i f; drk Kkr dja_u

¼d_l, d cPp~~ok~~sokys ifjokj dh~~A~~
¼k_l nscPp~~ok~~sokys ifjokj dh~~A~~
¼k_l bul sD; k e~~v~~; fudkyrs g~~l~~
- 5- , d dLcseat l~~ek~~Veh dsvol j ij 1000 y~~ks~~aeal s920 y~~ks~~ eflhj x; ~~A~~ eflhj u
t kusokys y~~ks~~adh i f; drk Kkr dja~~A~~

bl dk; Zl sD; k l h[k feyrh gS
- 6- ou eg~~l~~ o dsvol j ij , d Ldy ea100 cPp~~ok~~usH~~kk~~ fy; k v~~l~~ fuEu i ~~l~~kyx~~ku~~
ea, d n~~w~~jsdh l gk rk dh_u

i	h	dk	uke	xyc	elxjk	peyl	t l ehu
i	h	dh	l q; k	32	28	16	24

i f; drk Kkr dj u

¼ d) xyc ds i k s y x kus dh A

¼ k t kl ehu ds i k s y x kus dh A

¼ x) bl dk; Zl s D; k e v; fudyrk g S

7- e g u , d e g h use a 30,000 # i ; s de r k g s v k s 25,000 # i ; s [k p Z d j n r k g A ml dh
cpr dh i f; drk Kkr dj A

8- , d uxj ea 1000 y k h e a l s 998 y k i < f y [k g A i f; drk Kkr dj a f d p u k g y k
Q; f ä u

¼ d) i < k fy [k g A

¼ k v u i < + g A

¼ x) bl l s v k i D; k e v; fudkyrs g A

9- d { k k u l h ds 15 c p h a d s j ä l e g ; s g u

A, B, O, O, AB, O, A, O, B, A, O, B, A, O, O, AB

, d s c p s dh i f; drk Kkr dj k f t u d k j ä l e g u

¼ d) O g k

¼ k A g k

¼ x) bul s D; k e v; fudyrk g S

10- y k t i r u x j d s p k s i j 100 y k h e a l s 9 y k h a u s V Q d y k V dk m Y a k u f d; k A
m Y a k u u d j u s o k y s y k h a dh i f; drk Kkr dj k A

bl l s D; k l h [k f e y r h g S

mŪj ekyk

1- $\frac{1}{2}d \frac{800}{1500} = \frac{8}{15}$

$\frac{1}{4}k$ dŪ, k dks i k f ed r k A

2- $\frac{1}{2}d \frac{900}{1200} = \frac{3}{4}$

$\frac{1}{4}k$ nŝk i e dh Hkouk A

3- $\frac{1}{2}d \ P(M) = P(A) = \frac{2}{5}$

$\frac{1}{4}k$ l PpkZeŴ,

4- $\frac{1}{2}d \ \frac{3}{4} ; k \ \frac{750}{1000}$

$\frac{1}{4}k \ \frac{250}{1000} ; k \ \frac{1}{4}$

$\frac{1}{2}k$ $\frac{1}{4}$ tul ō; k fu; Ūk k

$\frac{1}{2}$ NŴk i fjokj l q k i fjokj

5- $\frac{1}{2}d \ \frac{80}{1000} ; k \ \frac{2}{25}$

$\frac{1}{4}k$ /k ed eŴ, A

6- $\frac{1}{2}d \ \frac{32}{100} ; k \ \frac{8}{25}$

$\frac{1}{4}k \ \frac{24}{100} ; k \ \frac{6}{25}$

$\frac{1}{2}k$ (i) i; k j. k l j {k

(ii) vki l h l g; k dh Hkouk

7- $\frac{1}{d} \frac{5000}{30000} ; k \frac{1}{6}$

$\frac{1}{4}k$ cpr dh vkr

8- $\frac{1}{d} \frac{998}{1000} ; k \frac{499}{500}$

$\frac{1}{4}k \frac{2}{1000} ; k \frac{1}{500}$

$\frac{1}{k}$ 'lgjæal k(k)rk nj vf/kd gA

9- $\frac{1}{d} \frac{7}{15}$

$\frac{1}{4}k \frac{4}{15}$

$\frac{1}{k}$ $\frac{1}{4}$ nku dh Hkouk

$\frac{1}{2}$ l ekt l oA

10- $\frac{1}{d} \frac{91}{100}$

$\frac{1}{4}k$ VQd fu; ek ds i fr l ekt dh tk: drk v\$ viusthou dh l j{k