

Sanjeevani Public School

Assignment - 2

Subject - Maths

class - VI

CH: - 2 Playing with numbers

Let us do 2.1

B - 1 Find the value of :-

(i) $30 + 14 \div 2$

(ii) $150 - 30 \div 5$

sol

we use BODMAS

$$= 150 - 6$$

$$= 144$$

$$= 30 + 7$$

$$= 37$$

iii $15 - (2 \times 2) + 4$

$$= 15 - 4 + 4$$

$$= 15$$

iv $4 - (7 - 6 \div 2)$

$$= 4 - (7 - 3)$$

$$= 4 - 4$$

$$= 0$$

v $27 - 5 \times 3 + 12$

$$= 27 - 15 + 12$$

$$= 39 - 15$$

$$= 24$$

vi $48 \div (5 + 7)$

$$= 48 \div 12$$

$$= 4$$

vii $18 - 3 \times 4 + 1$

$$= 18 - 12 + 1$$

$$= 9 - 12$$

$$= 7$$

viii $5 \times 4 - 3 \times 6 + 5$

$$= 20 - 18 + 5$$

$$= 25 - 18$$

$$= 7$$

XIV

$$96 - \{ (15 \div 3) - (45 \div 15) \} \times 10 + 4$$

$$= 96 - \{ 5 - 3 \} \times 10 + 4$$

$$= 96 - 2 \times 10 + 4$$

$$= 96 - 20 + 4$$

$$= 100 - 20$$

$$= 80$$

②

Write the numerical expression for each of following using brackets

(i) Six multiplied by sum of five and three

Ans $6 \times (5 + 3)$

(ii) Thirty two divided by sum of five and three

Ans $32 \div (5 + 3)$

iii Forty divided by difference of ten and two

$$40 \div (10 - 2)$$

③

Simplify

(i) $20 + \{ 12 - 5 + (8 - 3) \}$

$$= 20 + \{ 12 - 5 + 5 \}$$

$$= 20 + 12$$

$$= 32$$

II

$$90 \times [143 - \{6 \times 7 + (10 - 3 \times 8)\}]$$

Sol

$$= 90 \times [143 - \{6 \times 7 + (10 - 24)\}]$$

$$= 90 \times [143 - \{42 + 86\}]$$

$$= 90 \times [143 - 128]$$

$$= 90 \times 15$$

$$= 1350$$

III

$$120 \div [18 - \{20 - 3(9 - 5)\}]$$

Sol

$$= 120 \div [18 - \{20 - 3 \times 4\}]$$

$$= 120 \div [18 - \{20 - 12\}]$$

$$= 120 \div [18 - 8]$$

$$= 120 \div 10$$

$$= 12$$

IV

$$4 [18 + \{4 + 3(6 - 2)\}]$$

$$= 4 [18 + \{4 + 3 \times 4\}]$$

$$= 4 [18 + \{4 + 12\}]$$

$$= 4 [18 + 16]$$

$$= 4 \times 34$$

$$136$$

V

$$120 - [132 \div (3 \text{ of } 4) - \{20 - 15 - 3\}]$$

$$= 120 - [132 \div 12 - \{20 - 12\}]$$

$$= 120 - [11 - 8]$$

$$= 120 - 3$$

$$= 117$$

④

Observe the following expressions.

Here, the digit 0 to 9 have been used only once to get 100

$$123 - 45 - 67 + 89 = 100$$

Can you write another such arrangement?

Sol

Yes this arrangement is right

we can also write

$$98 - 76 + 54 + 3 + 21 = 100$$

H.W 0 to 9 - 1, 2, and 3

Remaining parts

Let us do 20

B1

Write all the factors of each of the following numbers

(i)

60

11

64

Sol

$$1 \times 60$$

$$1 \times 64$$

$$2 \times 30$$

$$2 \times 32$$

$$3 \times 20$$

$$4 \times 16$$

$$4 \times 15$$

$$8 \times 8$$

$$5 \times 12$$

factors $\rightarrow 1, 2, 4, 8, 16, 32, 64$

$$6 \times 10$$

factors $\rightarrow 1, 2, 3, 4, 5, 6, 10, 12, 15$

20, 30, 60

111

125

1×125

5×25

factors $\rightarrow 1, 5, 25, 125$

2) Write first three multiples of

(i) 5

sol 5, 10, 15

ii 8

8, 16, 24

iii 6

6, 12, 18

iv 19

19, 38, 57

v 25

25, 50, 75

3) out of the given numbers identify the numbers having 9, 15, and 21 as one of their factors:

1350, 15625, 21063, 171, 123015,
21630, 540, 1080

sol 1350, 171, 540, 1080 have 9 as a factor
1350, 123015, 540, 1080 has 15 as a factor
21063, and 21630 as 21 as a factor

4 Find all the prime numbers between

(i) 1 and 50

sol 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31
37, 41, 43, 47

⑤ Check the following for being prime or composite.

23, 26, 31, 51, 109

23 is prime no

26 $2 \times 13 = 26$ is composite

31 is prime no

51 $3 \times 17 = 51$ is composite

109 is prime no

⑥ Express each of the following numbers as the sum of two prime numbers

56, 80, 96, 100

Sol $56 = 3 + 53$

$80 = 7 + 73$

$96 = 7 + 89$

$100 = 3 + 97$

⑦ Express the following no as the sum of three odd prime numbers!

(i) 39 (ii) 71 (iii) 51 (iv) 69

Sol (i) $39 = 23 + 13 + 3$

(ii) $71 = 29 + 23 + 19$

iii $51 = 31 + 17 + 3$

iv $69 = 3 + 5 + 61$

⑧ Express each of the following as the sum of two twin primes

(i) 24 (ii) 60 (iii) 84

$$24 = 11 + 13$$

$$60 = 29 + 31$$

$$84 = 41 + 43$$

9 write down the numbers between 10 and 30 which have exactly 2 factors.

Ans 11, 13, 17, 19, 23, 29

10 write down the smallest odd composite number

Ans. 9

QNo-11 It is true/false need not to do in copy.

12 Do you know the largest 3 digit prime number

Ans yes, 997

True parts QNo QNo-1,

Let us do 2-3

Q1- using divisibility test determine

whether of the following numbers are divisible by 2, 3, 5, 9

126, 226, 327, 425, 672, 480, 810, 990, 2100

Q1

126, 226, 672, 780, 810, 990, 2100
are divisible by 2 since they have
6, 2, 0, at unit place

126, 327, 672, 780, 990, 2100
are divisible by 3 since their
sum of digits are divisible by 3

780, 990, 810, ⁴²⁵ 2100 are divisible
by 5 since they have 0 ^{and} ~~at~~ 5 at
unit place

126, 810, 990, are divisible by 9
as the sum of digits are divisible by 9

Q2

using divisibility tests determine
which of following numbers are
divisible by 4, 8

572, 624, 12159, 6196, 6192, 14540
21084

Sol

572, 624, 6196, 6192, 14540, 21084
are divisible by 4 as last
two digits are divisible by 4

624, 6192 are divisible by 8
last 3 digits are divisible by 8

3 Test the divisibility by 6 : 2832,
28325, 4452

sol (i) 2832 is divisible by 2 as
its unit place have no 2

$$2+8+3+2 = 15$$

15 is divisible by 3

\therefore 2832 is divisible by 6

(ii) 28,325

28325 is not divisible by 2
as it has 5 as unit place

\therefore 28325 is not divisible by 6

iii 4452

4452 is divisible by 2

$$4+4+5+2 = 15$$

4452 is divisible by 3

\therefore 4452 is divisible by 6

(4)

Test the largest prime number required
to test as a divisor to determine
the following numbers is or prime

number. Also determine if the number is a prime no.: 117, 151, 219, 271, 309, 369, 421, 503

sol 117

$$117 < 121 = 11 \times 11$$

So we have to need to check by

2, 3, 5, 7,

largest no. we have to check is 7

117 is ~~divisible~~ divisible by 3

\therefore 117 is not prime no.

11 151

$$151 < 169 = 13 \times 13$$

we have to check 2, 3, 5, 7, 11,

largest prime no we have to check is 11

151 is not divisible by 2, 3, 5, 7, 11

\therefore 151 is a prime no.

⑤ True/false

① which of following are prime no

(i) 159, (ii) 193, (iii) 203, (iv) 239

(v) 277, (vi) 311, (vii) 397, (viii) 401

Ans 193, 239, 277, 311, 397, 401
are prime no

Q No 7 to 11 are full ups need not to do in copy

12 Determine if 2,41,032 is divisible by 66

Sol we will check it by 6×11

2,41,032 is divisible by 2

$$2 + 4 + 1 + 0 + 3 + 2 = 12$$

\therefore 241032 is divisible by 3

\therefore 241032 is divisible by 6

Sum of digits at odd places = $2 + 0 + 4 = 6$

" " " at even places = $3 + 1 + 2 = 6$

$$6 - 6 = 0$$

\therefore 241032 is divisible by 11

\therefore 241032 is divisible by 66

13

18 is divisible by both 2 & 3. It is also divisible by $2 \times 3 = 6$ Similarly

a number is divisible by both 4 & 6

Can we say that the number is

also divisible by $4 \times 6 = 24$ if not

give an example to justify your answer

Ans NO. 36 is the no which is divisible by 4 & 6 but not by 36

Q4 Can you write the value of S to make 343450 divisible by 36

sol $S=8$

HW → Parts of Q No 4 & 6

Let us do 2 & 4

B1 Find all the common factors of
(1) 12, 15

sol factors of 12 → 1, 2, 3, 4, 6, 12
factors of 15 → 1, 3, 5, 15

Common factors → 1, 3

ii 10 and 28

factors of 10 → 1, 2, 5, 10
factors of 28 → 1, 2, 4, 7, 14, 28

C.F = 1, 2

iii 18 and 45

factors of 18 → 1, 2, 3, 6, 9, 18
factors of 45 → 1, 3, 5, 9, 15, 45
C.F → 1, 3, 9

iv

21 and 49

factors of 21 \rightarrow 1, 3, 7, 21
 factors of 49 \rightarrow 1, 7, 49
 C.F = 1, 7

ii 20 and 50
 20 \rightarrow 1, 2, 4, 5, 10, 20
 50 \rightarrow 1, 2, 5, 10, 25, 50
 C.F \rightarrow 2, 5, 10

ii find:-
 (i) the first two common multiples of 6 & 15
 Ans 30, 60, ~~120~~

(ii) The first three common multiples of 4 and 10
 Ans 20, 40, 60

iii the first two common multiples of 12 and 18
 36, 72

iv the first five common multiples of 2, 4 and 6
 Ans 12, 24, 36, 48, 60

v the first three common multiples of 8, 12, 15
 120, 240, 360

Ans Parts of vi to ix

Let us do 2-5

B-1 Express each of following as a product of prime factors 216, 441, 468, 525, 540, 1729

Sol

$$\begin{array}{r}
 2 \overline{) 216} \\
 \underline{2 \quad 108} \\
 2 \quad 54 \\
 \underline{2 \quad 27} \\
 3 \quad 9 \\
 \underline{3 \quad 3} \\
 3 \quad 1 \\
 \hline
 \end{array}$$

$$\begin{aligned}
 216 &= 2 \times 2 \times 2 \times 3 \times 3 \times 3 \\
 &= 2^3 \times 3^3
 \end{aligned}$$

441

$$\begin{array}{r}
 3 \overline{) 441} \\
 \underline{3 \quad 147} \\
 7 \quad 49 \\
 \underline{7 \quad 7} \\
 7 \quad 1 \\
 \hline
 \end{array}$$

$$\begin{aligned}
 441 &= 3 \times 3 \times 7 \times 7 \\
 &= 3^2 \times 7^2
 \end{aligned}$$

$$\begin{array}{r}
 2 \overline{) 468} \\
 \underline{2 \quad 234} \\
 3 \quad 117 \\
 \underline{3 \quad 39} \\
 13 \quad 13 \\
 \underline{13 \quad 1} \\
 \hline
 \end{array}$$

$$\begin{aligned}
 468 &= 2 \times 2 \times 3 \times 3 \times 13 \\
 &= 2^2 \times 3^2 \times 13
 \end{aligned}$$

$$\begin{array}{r}
 5 \overline{) 525} \\
 \underline{5 \quad 105} \\
 3 \quad 21 \\
 \underline{3 \quad 7} \\
 7 \quad 1 \\
 \hline
 \end{array}$$

$$\begin{aligned}
 525 &= 5 \times 5 \times 3 \times 7 \\
 &= 5^2 \times 3 \times 7
 \end{aligned}$$

$$\begin{array}{r}
 2 \overline{) 540} \\
 \underline{2 \quad 270} \\
 3 \quad 135 \\
 \underline{3 \quad 45} \\
 5 \quad 9 \\
 \underline{3 \quad 3} \\
 3 \quad 1 \\
 \hline
 \end{array}$$

$$\begin{aligned}
 540 &= 2 \times 2 \times 3 \times 3 \times 3 \times 5 \\
 &= 2^2 \times 3^3 \times 5
 \end{aligned}$$

$$\begin{array}{r}
 7 \overline{) 1729} \\
 \underline{7 \quad 247} \\
 13 \quad 19 \\
 \underline{13 \quad 1} \\
 \hline
 \end{array}$$

$$1729 = 7 \times 13 \times 19$$

2 write the smallest 5 digit number and its prime factors

sol Smallest five digit No: 10000

$$\begin{array}{r|l}
 2 & 10000 \\
 \hline
 2 & 5000 \\
 \hline
 2 & 2500 \\
 \hline
 2 & 1250 \\
 \hline
 5 & 625 \\
 \hline
 5 & 125 \\
 \hline
 5 & 25 \\
 \hline
 5 & 5 \\
 \hline
 & 1
 \end{array}$$

$$\begin{aligned}
 10000 &= 2 \times 2 \times 2 \times 2 \times 5 \times 5 \times 5 \times 5 \\
 &= 2^4 \times 5^4
 \end{aligned}$$

3 write largest 6 digit No and find its prime factors

sol largest 6 digit No: 999999

$$\begin{array}{r|l}
 3 & 999999 \\
 \hline
 3 & 333333 \\
 \hline
 3 & 111111 \\
 \hline
 11 & 37037 \\
 \hline
 & 3367
 \end{array}$$

$$999999 = 3 \times 3 \times 3 \times 11 \times 3367$$

5) Find the difference between smallest three digit number and smallest natural number. Also carry out prime factor of resulting number.

Sol Smallest 3 digit No = ~~999~~ 100
 Smallest natural No = 1
 difference $100 - 1 = 99$
 Prime factors of 99 = $3 \times 3 \times 11$

6) Find the smallest no having four different prime factors

Sol smallest no $\rightarrow 2 \times 3 \times 5 \times 7 = 210$

7) ~~Find~~ The product of three consecutive numbers is always divisible by 6 verify this statement with the help of some examples

Sol 1, 2, 3 $1 \times 2 \times 3 = 6$

8) The sum of two consecutive odd no is divisible by 4 verify this statement with the help of examples

Sol $3 + 5 = 8$ is divisible by 4
 H.W. ONO 4 & 7

Let us do Q.6

B-1

Determine the H.C.F of numbers given below by Prime factorisation method.

(i) 126, 216

2	126	2	216
3	63	2	108
3	21	2	54
7	7	3	27
	1	3	9
		3	3
			1

$$126 = 2 \times 3 \times 3 \times 7$$

$$216 = 2 \times 2 \times 2 \times 3 \times 3 \times 3$$

$$\begin{aligned} \text{H.C.F} &= 2 \times 3 \times 3 \\ &= 18 \end{aligned}$$

II

72, 126

2	72	2	126
2	36	3	63
2	18	3	21
3	9	7	7
3	3		1
	1		

$$72 = 2 \times 2 \times 2 \times 3 \times 3$$

$$126 = 2 \times 3 \times 3 \times 7$$

$$\text{H.C.F} = 2 \times 3 \times 3 = 18$$

Q.111) 48, 64

2 48	2 64
2 24	2 32
2 12	2 16
2 6	2 8
3 3	2 4
1	2 2
	1

48 = $2 \times 2 \times 2 \times 2 \times 3$
 64 = $2 \times 2 \times 2 \times 2 \times 2 \times 2$

H.C.F = $2 \times 2 \times 2 \times 2 = 16$

Q.112) 140, 160, 240

2 140	2 160	2 240
2 70	2 80	2 120
5 35	2 40	2 60
7 7	2 20	2 30
1	2 10	3 15
	5 5	5 5
	1	1

140 → $2 \times 2 \times 5 \times 7$
 160 → $2 \times 2 \times 2 \times 2 \times 2 \times 5$
 240 → $2 \times 2 \times 2 \times 2 \times 3 \times 5$

H.C.F = $2 \times 2 \times 5 = 20$

2 Determine H.C.F of the numbers given below by continued division method

(i) 225, 300

$$\begin{array}{r}
 225 \overline{) 300} \quad (1 \\
 \underline{225} \\
 75 \overline{) 225} \quad (3 \\
 \underline{225} \\
 \times
 \end{array}$$

H.C.F. = 75

ii 390, 1170

$$\begin{array}{r}
 390 \overline{) 1170} \quad (3 \\
 \underline{1170} \\
 \times
 \end{array}$$

H.C.F. = 390

iii 288, 576

$$\begin{array}{r}
 288 \overline{) 576} \quad (2 \\
 \underline{576} \\
 \times
 \end{array}$$

H.C.F. = 288

IV

880, 1375

$$880 \overline{) 1375} \quad (1$$

880

$$495 \overline{) 880} \quad (1$$

495

$$385 \overline{) 495} \quad (1$$

385

$$110 \overline{) 385} \quad (3$$

330

$$55 \overline{) 110} \quad (2$$

110

x

$$\text{H.C.F.} = 55$$

V

580, 1160, 1740

$$580 \overline{) 1160} \quad (2 \quad 580 \overline{) 1740} \quad (3$$

1160

x

1740

80

$$\text{H.C.F.} = 580$$

3

Find the largest number which divides 1277, 1368 leaving a remainder of 3 in each case.

Sol

required No will be H.C.F. of
 $1277 - 3 = 1274$, $1368 - 3 = 1365$

1274, 1365

$$\begin{array}{r} 1274 \overline{) 1365} \quad (1 \\ \underline{1274} \\ 91 \end{array}$$

$$\begin{array}{r} 91 \overline{) 1274} \quad (14 \\ \underline{91} \\ 364 \end{array}$$

$$\begin{array}{r} 364 \\ \underline{364} \\ 0 \end{array}$$

$$\begin{array}{r} 364 \\ \underline{364} \\ 0 \end{array}$$

$$\text{H.C.F} = 91$$

- ⑤ Two tankers can hold 1020 litres and 1190 litres of oil respectively. Find the largest capacity of a container which can be used to fill these tanks in exact no. of time.

sol we will find ~~H.C.F~~ H.C.F of 1020, 1190

$$\begin{array}{r} 1020 \overline{) 1190} \quad (1 \\ \underline{1020} \\ 170 \end{array}$$

$$\begin{array}{r} 170 \overline{) 1020} \quad (6 \\ \underline{1020} \\ 0 \end{array}$$

x

Largest capacity of container is 170 litres

- ⑥ The length, breadth of height of a room are 9m 75cm, 8m 25cm and 6m respectively. Determine the

the longest tape which can measure the three dimensions of room

Sol The length of longest tape will be H.C.F of 9m 75cm, 8m 25cm and 6m

$$9\text{m } 75\text{cm} = 975\text{cm}$$

$$8\text{m } 25\text{cm} = 825\text{cm}$$

$$6\text{m} = 600\text{cm}$$

$$600 \overline{) 825} \quad (1$$

$$600$$

$$\hline 225 \overline{) 600} \quad (2$$

$$450$$

$$150 \overline{) 225} \quad (1$$

$$150$$

$$75 \overline{) 150} \quad (2$$

$$150$$

x

$$75 \overline{) 975} \quad (13$$

$$75$$

$$\hline 225$$

$$225$$

x

$$\text{H.C.F} = \underline{75\text{cm}}$$

7 Find the greatest number which divides 1764, 4053, 3639, and 7624 leaving remainder 4, 5, 7, 8 respectively

Sol The greatest No will be H.C.F of
 $1764 - 4 = 1760$, $4053 - 5 = 4048$,
 $3639 - 7 = 3632$, $7624 - 8 = 7616$

$$1760 \overline{) 4048} \quad (2)$$

$$\underline{3520}$$

$$528 \overline{) 1760} \quad (3)$$

$$\underline{1584}$$

$$176 \overline{) 528} \quad (3)$$

$$\underline{528}$$

$$x$$

$$3632 \overline{) 7616} \quad (2)$$

$$\underline{7264}$$

$$352 \overline{) 3632} \quad (10)$$

$$\underline{352}$$

$$112 \overline{) 352} \quad (3)$$

$$\underline{336}$$

$$16 \overline{) 112} \quad (7)$$

$$\underline{112}$$

$$x$$

Now H.C.F of 176 & 2: x

$$16 \overline{) 176} \quad (11)$$

$$\underline{16}$$

$$16$$

$$\underline{16}$$

$$x$$

H.C.F = 16

9 It is given that 106,062 is divisible by 33 which two numbers nearest to 106062 are divisible by 33

Sol The required No will be

$$106062 - 33 = 106029$$

$$106062 + 33 = 106095$$

How parts of ONO 1, 2, ONO-4, 8, 10

Let us do 207

81 Determine the LCM of each of following

(1) 36, 60

$$2 \mid 36, 60$$

$$2 \mid 18, 30$$

$$3 \mid 9, 15$$

$$3 \mid 3, 5$$

$$\text{L-cm} \rightarrow 2 \times 2 \times 3 \times 3 \times 5 = 180$$

11 78, 91

$$13 \mid 78, 91$$

$$6, 7$$

$$13 \times 6 \times 7 = 546$$

iii) 12, 15, 45

3	12, 15, 45
5	4, 5, 15
	4, 1, 3

$3 \times 5 \times 4 \times 3 = 180$

2) For each of the following pairs of numbers verify that

$L.C.M \times H.C.F = \text{Product of numbers}$

(i) 21, 28

LCM of 21, 28

7	21, 28
	3, 4
	$7 \times 3 \times 4 = 84$

H.C.F of 21, 28

21) 28	(1
	21	
7) 21	(3
	21	
	x	

L.H.S = $LCM \times H.C.F = 84 \times 7 = 588$

R.H.S = $\text{Product of No} = 21 \times 28 = 588$

Hence verified

11

104, 195

L.C.M of 104, 195

H.C.F of 104, 195

$$13 \begin{array}{l} | 104, 195 \\ \hline 8, 15 \end{array}$$

$$104 \overline{) 195} \begin{array}{r} 1 \\ 104 \\ \hline 91 \end{array}$$

$$13 \times 8 \times 15 = 1560$$

$$91 \overline{) 104} \begin{array}{r} 1 \\ 91 \\ \hline 13 \end{array}$$

$$91 \overline{) 13} \begin{array}{r} 1 \\ 91 \\ \hline 0 \end{array}$$

$$13 \overline{) 91} \begin{array}{r} 7 \\ 91 \\ \hline 0 \end{array}$$

$$\frac{91}{13}$$

$$L.H.S = H.C.F \times L.C.M$$

$$= 13 \times 1560 = 20280$$

$$R.H.S = 104 \times 195 = 20280$$

Hence verified

③ Determine the lowest common denominator for given fractions

(i) $\frac{3}{8}, \frac{91}{13}, \frac{3}{19}$

Lowest common denominator = L.C.M of 8, 13, 19 = 1976

(ii) $\frac{13}{15}, \frac{8}{21}, \frac{16}{27}$

$$3 \begin{array}{l} | 15, 21, 27 \\ \hline 5, 7, 9 \end{array}$$

$$3 \times 5 \times 7 \times 9 = 945$$

iii $\frac{2}{3}, \frac{3}{4}, \frac{4}{5}$

L-CM of 3, 4, 5 = 60

④ Find L-CM of the following No. in which one number is the factor of the other

- (i) 7, 14 (ii) 15, 45 (iii) 16, 96

Ans (i) 14 (ii) 45 (iii) 96

We observe that highest No is L-CM

⑤ Find the least number which on adding 9 to it becomes exactly divisible by 15, 25, 30 and 45

sol:

$$\begin{array}{r|l} 3 & 15, 25, 30, 45 \\ 5 & 5, 25, 10, 15 \\ & 1, 5, 2, 3 \end{array}$$

L-CM $\rightarrow 3 \times 5 \times 5 \times 2 \times 3 = 450$

required No = ~~300~~ $450 - 9 = 441$

⑥ Four bells ring at intervals of 6, 8, 12, 20 minutes they ring at 8 a.m. At what time they will ring together

L.C.M of	2	6, 8, 12, 20
	2	3, 4, 6, 10
	3	3, 2, 3, 5
		1, 2, 1, 5

$$2 \times 2 \times 3 \times 2 \times 5 = 120 \text{ min}$$

$$120 \text{ min} = 2 \text{ hrs.}$$

they will rang together at 10 a.m

⑧ Find the least 5 digit which on dividing 4, 12, 20 and 24 leaves remainder 3 in each case

2	4, 12, 20, 24
2	2, 6, 10, 12
3	1, 3, 5, 6
	1, 1, 5, 2

$$2 \times 2 \times 3 \times 5 \times 2 = 120$$

required No = 1

$$\begin{array}{r}
 120 \overline{) 10000} \quad (81 \\
 \underline{980} \\
 200 \\
 \underline{120} \\
 80
 \end{array}$$

$$\text{required No } 10000 + 80 + 3 = 10083$$

Hint Part of 0 = 1, 2 0 = 6, 9