

NEW ERA PUBLIC SCHOOLSubject: → MathClass: → 5thSESSION: 2021Solved Assignment of Term 1stExercise: → 13[Math A]

Q.1: → Find the factors. [Practice remaining parts yourself].

(i) 12

sol: $1 \times 12 = 12$

$$2 \times 6 = 12$$

$$3 \times 4 = 12$$

$$4 \times 3 = 12$$

$$6 \times 2 = 12$$

$$12 \times 1 = 12$$

∴ Factors of 12 are 1, 2, 3, 4, 6 and 12.

(ii) 14

sol: $1 \times 14 = 14$

$$2 \times 7 = 14$$

$$7 \times 2 = 14$$

$$14 \times 1 = 14$$

∴ Factors of 14 are 1, 2, 7 and 14.

(iii) 16

sol: $1 \times 16 = 16$

$$2 \times 8 = 16$$

$$4 \times 4 = 16$$

$$8 \times 2 = 16$$

$$16 \times 1 = 16$$

$\therefore$ Factors of 16 are 1, 2, 4, 8 and 16.

Q.2: $\rightarrow$ Find the first 6 multiples [practice remaining parts yourself].

(i) 3

sol: $3 \times 1 = 3$

$$3 \times 2 = 6$$

$$3 \times 3 = 9$$

$$3 \times 4 = 12$$

$$3 \times 5 = 15$$

$$3 \times 6 = 18$$

$\therefore$ First 6 multiples of 3 are 3, 6, 9, 12, 15 and 18.

(ii) 5

sol: $5 \times 1 = 5$

$$5 \times 2 = 10$$

$$5 \times 3 = 15$$

$$5 \times 4 = 20$$

$$5 \times 5 = 25$$

$$5 \times 6 = 30$$

$\therefore$ First 6 multiples of 5 are 5, 10, 15, 20, 25 and 30

(iii) 6

sol: $6 \times 1 = 6$

$$6 \times 2 = 12$$

$$6 \times 3 = 18$$

$$6 \times 4 = 24$$

$$6 \times 5 = 30$$

$$6 \times 6 = 36$$

$\therefore$ First 6 multiples of 6 are 6, 12, 18, 24, 30 and 36

(iv) 8

sol: $8 \times 1 = 8$

$$8 \times 2 = 16$$

$$8 \times 3 = 24$$

$$8 \times 4 = 32$$

$$8 \times 5 = 40$$

$$8 \times 6 = 48$$

$\therefore$ First 6 multiples of 8 are 8, 16, 24, 32, 40, and 48.

Exercise $\Rightarrow$ 14.

1: Circle the numbers which are divisible by

(a) 2 | (14) 39 (70) 125 (28)

(b) 5 | 112 (140) 151 (85) 503

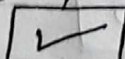
(c) 10 | (100) 201 (60) 72 98

2: Test for divisibility by:

3 | 84

$$8 + 4 = 12$$

$$12 \div 3 = 4$$



331

$$3 + 3 + 1 = 7$$

$$7 \div 3 = 2.3$$



93

$$9 + 3 = 12$$

$$12 \div 3 = 4$$



(b) 9 919

$$9+1+9=19$$

$$19 \div 9 = 2.1$$

☐ X

54

$$5+4=9$$

$$9 \div 9 = 1$$

☒ ✓

234

$$2+3+4=9$$

$$9 \div 9 = 1$$

☒ ✓Define Prime numbers:

Ans: $\rightarrow$ Any number greater than 1 and having only two factors, is known as a prime number.

Example: 2, 3, 5, 7.

Define Twin primes:

Ans: $\rightarrow$ Two prime numbers with a difference of 2, are called twin primes.

Example: 3 and 5
5 and 7

Define Composite numbers:

Ans: $\rightarrow$ Any number greater than 1 and having more than two factors is called a composite number.

Example: 4, 6, 8, 10.

Exercise: $\rightarrow$ 15

Find if the following numbers are composite (C) or Prime (P).

31 ☐ P21 ☐ C81 ☐ C66 ☐ C29 ☐ P23 ☐ P

$32 \quad \boxed{C}$

$51 \quad \boxed{C}$

$17 \quad \boxed{P}$

$11 \quad \boxed{P}$

$42 \quad \boxed{C}$

$65 \quad \boxed{C}$

Exercise : $\rightarrow$ 16

Complete the prime factorisation tree.

$$\begin{array}{l}
 \text{(i)} \quad 96 = 2 \times 48 \\
 \quad \quad \downarrow \quad \quad \downarrow \searrow \\
 \quad \quad 2 \times 2 \times 24 \\
 \quad \quad \downarrow \quad \quad \downarrow \quad \downarrow \searrow \\
 \quad \quad 2 \times 2 \times 2 \times 12 \\
 \quad \quad \downarrow \quad \quad \downarrow \quad \downarrow \quad \downarrow \searrow \\
 \quad \quad 2 \times 2 \times 2 \times 2 \times 6 \\
 \quad \quad \downarrow \quad \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow \searrow \\
 \quad \quad 2 \times 2 \times 2 \times 2 \times 2 \times 3 \\
 \therefore 96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3.
 \end{array}$$

$$\begin{array}{l}
 \text{(ii)} \quad 120 = 2 \times 60 \\
 \quad \quad \downarrow \quad \quad \downarrow \searrow \\
 \quad \quad 2 \times 2 \times 30 \\
 \quad \quad \downarrow \quad \quad \downarrow \quad \downarrow \searrow \\
 \quad \quad 2 \times 2 \times 2 \times 15 \\
 \quad \quad \downarrow \quad \quad \downarrow \quad \downarrow \quad \downarrow \searrow \\
 \quad \quad 2 \times 2 \times 2 \times 3 \times 5 \\
 \therefore 120 = 2 \times 2 \times 2 \times 3 \times 5.
 \end{array}$$

Exercise :-> 17

1: Find the prime factors with the help of prime factorisation. [Practice remaining parts yourself].

(a) 81

3	81
3	27
3	9
	3

$\therefore$ Prime factors of 81 are $3 \times 3 \times 3 \times 3$

(c) 36

2	36
2	18
3	9
	3

$\therefore$ Prime factors of 36 are $2 \times 2 \times 3 \times 3$

(e) 64

2	64
2	32
2	16
2	8
2	4
	2

$\therefore$ Prime factors of 64 are $2 \times 2 \times 2 \times 2 \times 2 \times 2$

(g) 124

2	124
2	62
	31

$\therefore$ Prime factors of 124 are $2 \times 2 \times 31$

(ii) 120

2	120
2	60
2	30
3	15
	5

$\therefore$ Prime factors of 120 are $2 \times 2 \times 2 \times 3 \times 5$

(k) 72

2	72
2	36
2	18
3	9
	3

$\therefore$ Prime factors of 72 are $2 \times 2 \times 2 \times 2 \times 3$

2: Find the prime factors with the help of division method. [Practice remaining parts]

(iv) 40

2	40
2	20
2	10

$\therefore$ Prime factors of 140 are $2 \times 2 \times 2 \times 5$

(c) 32

2	32
2	16
2	8
2	4
	2

$\therefore$ Prime factors of 32 are $2 \times 2 \times 2 \times 2 \times 2$

(e) 56

2	56
2	28
2	14
	7

$\therefore$ Prime factors of 56 are $2 \times 2 \times 2 \times 7$

(g) 76

2	76
2	38
	19

$\therefore$ Prime factors of 76 are $2 \times 2 \times 19$

(i) 39

3	39
	13

$\therefore$ Prime factors of 39 are 3×13

(K) 324

2	324
2	162
3	81
3	27
3	9
	3

$\therefore$ Prime factors of 324 are $2 \times 2 \times 3 \times 3 \times 3 \times 3$.

3: Write all the prime numbers lying between. [Practice remaining parts yourself].

(a) 2 and 25

sol: Prime numbers lying between 2 and 25 are 3, 5, 7, 11, 13, 17, 19 and 23

(c) 40 and 60

sol: Prime numbers lying between 40 and 60 are 41, 43, 47, 53 and 59.

(e) 80 and 90

sol: Prime numbers lying between 80 and 90 are 83 and 89

(g) 30 and 48

sol: Prime numbers lying between 30 and 48 are 31, 37, 41, 43 and 47

4: Write all the composite numbers lying between.

(a) 1 and 15

sol: Composite numbers lying between 1 and 15 are 4, 6, 8, 9, 10, 12 and 14

(c) 38 and 50

sol: Composite numbers lying between 38 and 50 are 39, 40, 42, 44, 45, 46, 48, and 49.

(e) 70 and 85

sol: Composite numbers lying between 70 and 85 are 72, 74, 75, 76, 77, 78, 80, 81, 82 and 84

(g) 45 and 60

sol: Composite numbers lying between 45 and 60 are 46, 48, 49, 50, 51, 52, 54, 55, 56, 57 and 58.

Exercise :- 18

1: Find the HCF With the help of prime factorisation.

(a) 6 and 8

sol:

$$\begin{array}{r|l} 2 & 6 \\ \hline & 3 \end{array}$$

$$\begin{array}{r|l} 2 & 8 \\ \hline 2 & 4 \\ \hline & 2 \end{array}$$

Prime factors of 6 = $\boxed{2} \times 3$

Prime factors of 8 = $\boxed{2} \times 2 \times 2$

Common factors of 6 and 8 = 2

$\therefore$ HCF of 6 and 8 = 2

(b) 12, 16 and 14

Sol:

2	12
2	6
	3

2	16
2	8
2	4
	2

2	14
	7

Prime factors of 12 = $2 \times 2 \times 3$

Prime factors of 16 = $2 \times 2 \times 2 \times 2$

Prime factors of 14 = 2×7

$\therefore$ Common factors of 12, 16 and 14 = 2

$\therefore$ HCF of 12, 16 and 14 = 2

(c) 14, 18 and 20

Sol:

2	14
	7

2	18
3	9
	3

2	20
2	10
	5

Prime factors of 14 = 2×7

Prime factors of 18 = $2 \times 3 \times 3$

Prime factors of 20 = $2 \times 2 \times 5$

Common factors of 14, 18 and 20 = 2

$\therefore$ HCF of 14, 18 and 20 = 2

(d) 8, 24 and 40

Sol:

2	8
2	4
	2

2	24
2	12
2	6
	3

2	40
2	20
2	10
	5

Prime factors of 8 = $2 \times 2 \times 2$

Prime factors of 24 = $2 \times 2 \times 2 \times 3$

Prime factors of 40 = $2 \times 2 \times 2 \times 5$

Common factors of 8, 24 and 40 = $2 \times 2 \times 2$

$\therefore$ HCF of 8, 24 and 40 = 8

(e) 54, 81 and 18

sol:

2	54
3	27
3	9
	3

3	81
3	27
3	9
	3

2	18
3	9
	3

Prime factors of 54 = $2 \times 3 \times 3 \times 3$

Prime factors of 81 = $3 \times 3 \times 3 \times 3$

Prime factors of 18 = $2 \times 3 \times 3$

Common factors of 54, 81 and 18 = 3×3

$\therefore$ HCF of 54, 81 and 18 = 9.

(f) 22, 44 and 66

sol:

2	22
	11

2	44
2	22
	11

2	66
3	33
	11

Prime factors of 22 = 2×11

Prime factors of 44 = $2 \times 2 \times 11$

Prime factors of 66 = $2 \times 3 \times 11$

Common factors of 22, 44 and 66 = 2×11

$\therefore$ HCF of 22, 44 and 66 = 22

2: Find the HCF With the help of Common division method.

(a) 16 and 24

$$\begin{array}{l|l} \text{sol: } 2 & 16, 24 \\ \hline 2 & 8, 12 \\ \hline 2 & 4, 6 \\ \hline & 2, 3 \end{array}$$

$\therefore$ Common factors of 16 and 24 = $2 \times 2 \times 2$

$\therefore$ HCF of 16 and 24 = 8

(b) 24 and 96

$$\begin{array}{l|l} \text{sol: } 2 & 24, 96 \\ \hline 2 & 12, 48 \\ \hline 2 & 6, 24 \\ \hline 3 & 3, 12 \\ \hline & 1, 4 \end{array}$$

Common factors of 24 and 96 = $2 \times 2 \times 2 \times 3$

$\therefore$ HCF of 24 and 96 = 24

(c) 12, 24 and 36

$$\begin{array}{l|l} \text{sol: } 2 & 12, 24, 36 \\ \hline 2 & 6, 12, 18 \\ \hline 3 & 3, 6, 9 \\ \hline & 1, 2, 3 \end{array}$$

Common factors of 12, 24 and 36 = $2 \times 2 \times 3$

$\therefore$ HCF of 12, 24 and 36 = 12

(d) 16, 8 and 22

$$\begin{array}{l|l} \text{sol: } 2 & 16, 8, 22 \\ \hline & 8, 4, 11 \end{array}$$

Common factors of 16, 8 and 22 = 2

$\therefore$ HCF of 16, 8 and 22 = 2

(e) 1, 36 and 20

Sol:
$$\begin{array}{r|l} 1 & 1, 36, 20 \\ & 1, 36, 20 \end{array}$$

Common factors of 1, 36 and 20 = 1

$\therefore$ HCF of 1, 36 and 20 = 1

(f) 21, 10 and 7

Sol:
$$\begin{array}{r|l} 1 & 21, 10, 7 \\ & 21, 10, 7 \end{array}$$

Common factors of 21, 10, 7 = 1

$\therefore$ HCF of 21, 10, 7 = 1

Exercise $\rightarrow$ 19

1: Find the HCF of the following numbers
With the help of long division method
[Practice remaining parts yourself].

(a) 80 and 176

Sol:
$$\begin{array}{r} 80 \overline{) 176} \quad 2 \\ \underline{160} \\ 16 \overline{) 80} \quad 5 \\ \underline{80} \\ 0 \end{array}$$

$\therefore$ HCF of 80 and 176 = 16

(e) 675 and 720

$$\begin{array}{r}
 \text{sol: } 675 \overline{) 720} \mid 1 \\
 \underline{675} \\
 45 \overline{) 675} \mid 14 \\
 \underline{630} \\
 45 \overline{) 45} \mid 1 \\
 \underline{45} \\
 \times
 \end{array}$$

$\therefore$ HCF of 675 and 720 = 45

(i) 140 and 240

$$\begin{array}{r}
 \text{sol: } 140 \overline{) 240} \mid 1 \\
 \underline{140} \\
 100 \overline{) 140} \mid 1 \\
 \underline{100} \\
 40 \overline{) 100} \mid 2 \\
 \underline{80} \\
 20 \overline{) 40} \mid 2 \\
 \underline{40} \\
 \times
 \end{array}$$

$\therefore$ HCF of 140 and 240 = 20

(m) 275 and 300

$$\begin{array}{r}
 \text{sol: } 275 \overline{) 300} \mid 1 \\
 \underline{275} \\
 25 \overline{) 275} \mid 11 \\
 \underline{275} \\
 \times
 \end{array}$$

$\therefore$ HCF of 275 and 300 = 25

(9) 496 and 124

sol:
$$\begin{array}{r} 124 \overline{) 496} \quad | \quad 4 \\ \underline{496} \\ \times \end{array}$$

$\therefore$ HCF of 496 and 124 = 124

(11) 1650 and 1350

sol:
$$\begin{array}{r} 1350 \overline{) 1650} \quad | \quad 1 \\ \underline{1350} \\ 300 \overline{) 1350} \quad | \quad 4 \\ \underline{1200} \\ 150 \overline{) 300} \quad | \quad 2 \\ \underline{300} \\ \times \end{array}$$

$\therefore$ HCF of 1650 and 1350 = 150.

2: Find the HCF of the following set of factors. [Practice remaining parts yourself].

(a) $2 \times 2 \times 3 \times 3$ and $2 \times 3 \times 5 \times 7$

sol:
$$\begin{array}{r} 36 \text{ and } 210 \\ 36 \overline{) 210} \quad | \quad 5 \\ \underline{180} \\ 30 \overline{) 36} \quad | \quad 1 \\ \underline{30} \\ 6 \overline{) 30} \quad | \quad 5 \\ \underline{30} \\ \times \end{array}$$

$\therefore$ HCF of 36 and 210 = 6.

(c) $3 \times 3 \times 7$ and $3 \times 2 \times 11$

Sol: 63 and 66

$$63 \overline{) 66} \mid 1$$

$$\begin{array}{r} 63 \\ 3 \overline{) 63} \mid 21 \end{array}$$

$$\begin{array}{r} 63 \\ \times \\ \hline \end{array}$$

$\therefore$ HCF of 63 and 66 = 3.

3: Check and tick ($\checkmark$) if the numbers shown are exactly divisible by 2, 3, 5, 6, 9, 10.

Divisible by $\rightarrow$ Number $\downarrow$	2	3	5	6	9	10
25			$\checkmark$			
51		$\checkmark$				
120	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		$\checkmark$
256	$\checkmark$					

Exercise $\rightarrow$ 20

1: Find the LCM With the help of prime factorisation method. [Practice remaining parts yourself]

(a) 24, 44

$$\begin{array}{r|l} 2 & 24 \\ \hline 2 & 12 \\ \hline 2 & 6 \\ \hline & 3 \end{array}$$

$$\begin{array}{r|l} 2 & 44 \\ \hline 2 & 22 \\ \hline & 11 \end{array}$$

Prime factors of 24 = $\boxed{2} \times \boxed{2} \times 2 \times 3$

Prime factors of 44 = $\boxed{2} \times \boxed{2} \times 11$

Common factors of 24, 44 = 2×2

Factors left out = $2 \times 3 \times 11$

$\therefore$ LCM of 24, 44 = $2 \times 2 \times 2 \times 3 \times 11$
 $= 264$

(c) 28, 32

Sol:
$$\begin{array}{r|l} 2 & 28 \\ 2 & 14 \\ & 7 \end{array}$$

$$\begin{array}{r|l} 2 & 32 \\ 2 & 16 \\ 2 & 8 \\ 2 & 4 \\ & 2 \end{array}$$

Prime factors of 28 = $\boxed{2} \times \boxed{2} \times 7$

Prime factors of 32 = $\boxed{2} \times \boxed{2} \times 2 \times 2 \times 2$

Common factors of 28 and 32 = 2×2

Factors left out = $7 \times 2 \times 2 \times 2$

$\therefore$ LCM of 28 and 32 = $2 \times 2 \times 7 \times 2 \times 2 \times 2$
 $= 224$

(e) 18, 21

Sol:
$$\begin{array}{r|l} 2 & 18 \\ 3 & 9 \\ & 3 \end{array}$$

$$\begin{array}{r|l} 3 & 21 \\ & 7 \end{array}$$

Prime factors of 18 = $2 \times \boxed{3} \times 3$

Prime factors of 21 = $7 \times \boxed{3}$

Common factors of 18 and 21 = 3

Factors left out = $2 \times 3 \times 7$

$\therefore$ LCM of 18 and 21 = $3 \times 2 \times 3 \times 7$
 $= 126$

g) 60, 85

Sol:

2	60
2	30
3	15
	5

5	85
	17

Prime factors of 60 = $2 \times 2 \times 3 \times 5$

Prime factors of 85 = 5×17

Common factors of 60 and 85 = 5

Factors left out = $2 \times 2 \times 3 \times 17$

$\therefore$ LCM of 60 and 85 = $5 \times 2 \times 2 \times 3 \times 17$
 $= 1020$

2: Find the LCM using common division method. [Practice remaining parts yourself].

(a) 36, 16

Sol:

2	36, 16
2	18, 8
3	9, 4
2	3, 2
	3, 2

$\therefore$ LCM of 36, 16 = $2 \times 2 \times 3 \times 2 \times 3 \times 2$
 $= 144$

d 96, 84

Sol:

2	96, 84
2	48, 42
3	24, 21
2	8, 7
2	4, 7

2, 7

$$\therefore \text{LCM of } 96 \text{ and } 84 = 2 \times 2 \times 3 \times 2 \times 2 \times 2 \times 7$$

$$= 672$$

(g) 17, 27, 51

sol:

3	17, 27, 51
3	17, 9, 17
17	17, 3, 17
	1, 3, 1

$$\therefore \text{LCM of } 17, 27 \text{ and } 51 = 3 \times 3 \times 17 \times 3$$

$$= 459$$

(h) 20, 36, 48

sol:

2	20, 36, 48
2	10, 18, 24
3	5, 9, 12
2	5, 3, 4
	5, 3, 2

$$\therefore \text{LCM of } 20, 36 \text{ and } 48 = 2 \times 2 \times 3 \times 2$$

$$\times 5 \times 3 \times 2$$

$$= 720.$$

Exercise :-> 21

Complete the table

Numbers	Product of No. ^s	LCM	HCF
(a) 8, 20	160	<u>40</u>	4

2	8, 20
2	4, 10
	2, 5

$$\therefore \text{LCM} = 2 \times 2 \times 2 \times 5$$

$$= 40$$

(b) 24, 22 528 264 2

$$\begin{array}{r|l} 2 & 24, 22 \\ & 12, 11 \end{array}$$

$$\therefore \text{HCF} = 2$$

(c) 32, 36 1152 288 4

$$\begin{array}{r|l} 2 & 32, 36 \\ 2 & 16, 18 \\ & 8, 9 \end{array}$$

$$\therefore \text{HCF} = 2 \times 2$$

$$= 4$$

(d) 60, 80 4800 240 20

$$\begin{array}{r|l} 2 & 60, 80 \\ 2 & 30, 40 \\ 5 & 15, 20 \\ 2 & 3, 4 \\ & 3, 2 \end{array}$$

$$\therefore \text{LCM} = 2 \times 2 \times 5 \times 2 \times 3 \times 2$$

$$= 240$$

Exercise :-> 87 [Math B]

1: Complete the tables. [Practice remaining parts yourself].

(a) 240 minutes = 4 hours.

Sol: 1 hour = 60 minutes

$$\therefore 240 \text{ minutes} = 240 \div 60$$

$$\begin{array}{r} 60 \overline{) 240} \quad | \quad 4 \\ \underline{240} \\ \times \end{array}$$

$$\therefore 240 \text{ minutes} = 4 \text{ hours.}$$

(c) $600 \text{ minutes} = \underline{10} \text{ hours}$

sol: $1 \text{ hour} = 60 \text{ minutes}$

$$\therefore 600 \text{ minutes} = 600 \div 60$$

$$\begin{array}{r} 60 \overline{) 600} \quad | \quad 10 \\ \underline{600} \\ \times \end{array}$$

$$\therefore 600 \text{ minutes} = 10 \text{ hrs.}$$

(e) $420 \text{ minutes} = \underline{7} \text{ hours.}$

sol: $1 \text{ hour} = 60 \text{ minutes}$

$$\therefore 420 \text{ minutes} = 420 \div 60$$

$$\begin{array}{r} 60 \overline{) 420} \quad | \quad 7 \\ \underline{420} \\ \times \end{array}$$

$$\therefore 420 \text{ minutes} = 7 \text{ hours.}$$

(g) $363 \text{ minutes} = \underline{6} \text{ hrs } \underline{3} \text{ mins}$

sol: $1 \text{ hour} = 60 \text{ minutes}$

$$\therefore 363 \text{ minutes} = 363 \div 60$$

$$\begin{array}{r} 60 \overline{) 363} \quad | \quad 6 \\ \underline{360} \\ 3 \end{array}$$

$$\therefore 363 \text{ mins} = 6 \text{ hrs } 3 \text{ mins.}$$

$$(i) 260 \text{ minutes} = \underline{4} \text{ hrs } \underline{20} \text{ mins}$$

$$\text{sol: } 1 \text{ hour} = 60 \text{ minutes}$$

$$\therefore 260 \text{ minutes} = 260 \div 60$$

$$60 \overline{) 260} \quad 4$$

$$\underline{240}$$

$$20$$

$$\therefore 260 \text{ minutes} = 4 \text{ hrs } 20 \text{ mins}$$

$$(ii) 163 \text{ minutes} = \underline{2} \text{ hrs } \underline{43} \text{ mins.}$$

$$\text{sol: } 1 \text{ hour} = 60 \text{ minutes}$$

$$\therefore 163 \text{ mins} = 163 \div 60$$

$$60 \overline{) 163} \quad 2$$

$$\underline{120}$$

$$43$$

$$\therefore 163 \text{ mins} = 2 \text{ hrs } 43 \text{ mins.}$$

$$(iii) 3 \text{ hours } 15 \text{ minutes} = \underline{195} \text{ minutes}$$

$$\text{sol: } 1 \text{ hour} = 60 \text{ minutes}$$

$$\therefore 3 \text{ hours} = 3 \times 60$$

$$= 180 \text{ minutes}$$

$$\therefore 3 \text{ hours } 15 \text{ minutes} = 180$$

$$+ 15$$

$$\underline{195 \text{ mins}}$$

$$(iv) 2 \frac{1}{4} \text{ hours} = \underline{135} \text{ minutes}$$

$$\text{sol: } 1 \text{ hour} = 60 \text{ minutes}$$

$$\therefore 2 \text{ hours} = 2 \times 60$$

$$= 120 \text{ minutes}$$

$$\frac{1}{4} \text{ hours} = \frac{1}{4} \times 60 = \frac{60}{4} = 15$$

$$= 15 \text{ minutes}$$

$$\therefore 2\frac{1}{4} = 120$$

$$+ 15$$

135 minutes

(9) 3724 minutes = 62 hrs 4 mins

sol: 1 hour = 60 minutes

$$\therefore 3724 \text{ mins} = 3724 \div 60$$

$$60 \overline{) 3724} \mid 62$$

$$\underline{360}$$

$$124$$

$$\underline{120}$$

$$4$$

$$\therefore 3724 \text{ mins} = 62 \text{ hrs } 4 \text{ mins}$$

(3) 880 minutes = 14 hours 40 mins

1 hour = 60 minutes

$$\therefore 880 \text{ mins} = 880 \div 60$$

$$60 \overline{) 880} \mid 14$$

$$\underline{60}$$

$$280$$

$$\underline{240}$$

$$40$$

$$\therefore 880 \text{ mins} = 14 \text{ hrs } 40 \text{ mins.}$$

2: (a) What will be the time after 75 secs?

sol: 8 hrs 43 mins 25 secs

$$+ 75 \text{ secs}$$

$$\underline{8 \text{ hrs } 43 \text{ mins } 100 \text{ secs}}$$

$$1 \text{ minutes} = 60 \text{ secs.}$$

$$\therefore 100 = 100 \div 60$$

$$60 \overline{) 100} \mid 1 \rightarrow \text{min}$$

$$\underline{60}$$

$$40 \rightarrow \text{secs.}$$

+ 1

$$\begin{array}{r} 8 \text{ hrs.} \quad 44 \text{ mins} \quad 40 \text{ secs} \\ \hline \end{array}$$

(c) What will be the time after 22 mins, 28 secs?

sol:

$$\begin{array}{r} 6 \text{ hrs} \quad 8 \text{ mins} \quad 42 \text{ secs} \\ + \quad 22 \text{ mins} \quad 28 \text{ secs} \\ \hline 6 \text{ hrs} \quad 30 \text{ mins} \quad 70 \text{ secs} \end{array}$$

$$1 \text{ min} = 60 \text{ secs}$$

+ 1

$$\therefore 70 \text{ secs} = 70 \div 60$$

$$60 \overline{) 70} \mid 1 \rightarrow \text{min}$$

$$\underline{60}$$

$$10 \rightarrow \text{sec}$$

$$\begin{array}{r} 6 \text{ hrs.} \quad 31 \text{ mins} \quad 10 \text{ secs} \\ \hline \end{array}$$

(e) What will be the time after 15 mins 47 secs?

sol:

$$\begin{array}{r} 38 \text{ hrs} \quad 14 \text{ mins} \quad 28 \text{ secs} \\ + \quad 15 \text{ mins} \quad 47 \text{ secs} \\ \hline 38 \text{ hrs} \quad 29 \text{ mins} \quad 75 \text{ secs} \end{array}$$

$$1 \text{ min} = 60 \text{ secs}$$

+ 1

$$\therefore 75 \text{ secs} = 75 \div 60$$

$$60 \overline{) 75} \mid 1 \rightarrow \text{min}$$

$$\underline{60}$$

$$15 \rightarrow \text{sec}$$

$$\begin{array}{r} 38 \text{ hrs.} \quad 30 \text{ mins} \quad 15 \text{ secs} \\ \hline \end{array}$$

2:(a) What was the time 30 seconds before?
sol:

$$\begin{array}{r}
 3 \text{ hrs} \quad 31 \text{ mins} \quad 60 = 66 \\
 + 6 \text{ secs} \\
 \hline
 3 \text{ hrs} \quad 31 \text{ mins} \quad 36 \text{ secs}
 \end{array}$$

(d) What was the time 2 mins, 46 secs before?
sol:

$$\begin{array}{r}
 7 \text{ hrs} \quad 37 \text{ mins} \quad + 60 = 77 \\
 + 17 \text{ secs} \\
 \hline
 7 \text{ hrs} \quad 35 \text{ mins} \quad 31 \text{ secs}
 \end{array}$$

(e) What was the time 1 hour, 12 mins, 48 secs before?
sol:

$$\begin{array}{r}
 3 \text{ hrs} \quad 22 \text{ mins} \quad + 60 = 79 \\
 - 1 \text{ hr} \quad 12 \text{ mins} \quad 19 \text{ secs} \\
 \hline
 2 \text{ hrs} \quad 10 \text{ mins} \quad 31 \text{ secs}
 \end{array}$$

3: What will be the time after 2 hrs 5 mins 24 secs?

$$\begin{array}{r}
 7 \text{ hrs} \quad 30 \text{ mins} \quad 5 \text{ secs} \\
 + 2 \text{ hrs} \quad 5 \text{ mins} \quad 24 \text{ secs} \\
 \hline
 9 \text{ hrs} \quad 35 \text{ mins} \quad 29 \text{ secs}
 \end{array}$$

$$\begin{array}{r}
 \text{(b)} \quad 17 \text{ hrs} \quad 15 \text{ mins} \quad 17 \text{ secs} \\
 + \quad 2 \text{ hrs} \quad 5 \text{ mins} \quad 24 \text{ secs} \\
 \hline
 19 \text{ hrs} \quad 20 \text{ mins} \quad 41 \text{ secs}
 \end{array}$$

$$\begin{array}{r}
 \text{(c)} \quad 23 \text{ hrs} \quad 5 \text{ mins} \quad 7 \text{ secs} \\
 + \quad 2 \text{ hrs} \quad 5 \text{ mins} \quad 24 \text{ secs} \\
 \hline
 25 \text{ hrs} \quad 10 \quad 31 \text{ secs}
 \end{array}$$

$$\begin{array}{r}
 \text{(d)} \quad 40 \text{ hrs} \quad 21 \text{ mins} \quad 34 \text{ secs} \\
 + \quad 2 \text{ hrs} \quad 5 \text{ mins} \quad 24 \text{ secs} \\
 \hline
 42 \text{ hrs} \quad 26 \text{ mins} \quad 58 \text{ secs}
 \end{array}$$

4: What was the time 3 hours 20 mins 15 seconds before?

$$\begin{array}{r}
 \text{(a)} \quad 26 \text{ hrs} \quad 6 + 60 = 66 \quad + 60 = 69 \\
 \quad 27 \text{ hrs} \quad 7 \text{ mins} \quad 9 \text{ secs} \\
 - \quad 3 \text{ hrs} \quad 20 \text{ mins} \quad 15 \text{ secs} \\
 \hline
 23 \text{ hrs} \quad 46 \text{ mins} \quad 54 \text{ secs}
 \end{array}$$

$$\begin{array}{r}
 \text{(b)} \quad \quad \quad 35 \quad + 60 = 66 \\
 \quad 12 \text{ hrs} \quad 36 \text{ mins} \quad 6 \text{ secs} \\
 - \quad 3 \text{ hrs} \quad 20 \text{ mins} \quad 15 \text{ secs} \\
 \hline
 9 \text{ hrs} \quad 15 \text{ mins} \quad 51 \text{ secs}
 \end{array}$$

(c)

	24	+ 60 = 69
9 hrs	25 mins	9 secs
- 3 hrs	20 mins	15 secs
6 hrs	4 mins	54 secs

(d)

28 hrs	36 mins	28 mins
- 3 hrs	20 mins	15 mins
25 hrs	16 mins	13 mins

Exercise : → 88

Formula :

1: Finishing date = Starting date + Duration

2: Starting date = Finishing date - Duration

Q. No. 1: → Complete the table

	STARTING DATE	DURATION	FINISHING DATE
(a)	Independence Day	28 days	<u>12th September</u>

sol: Finishing date = Starting date + Duration

$$= \text{Independence day} + 28 \text{ days.}$$

$$= 15^{\text{th}} \text{ August} + 28 \text{ days.}$$

$$= 16^{\text{th}} \text{ August} - 31^{\text{st}} \text{ August} = 16 \text{ days}$$

$$= 1^{\text{st}} \text{ September} - 12^{\text{th}} \text{ September} + 12 \text{ days}$$

$$28 \text{ days.}$$

∴ Finishing date = 12th September.

(b)	Grandhi jayanti	45 days	<u>16th November</u>
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sol: Finishing date = Starting date + Duration

$$= \text{Grandhi jayanti} + 45 \text{ days.}$$

$$\begin{aligned}
 &= 2^{\text{nd}} \text{ october} + 45 \text{ days} \\
 &= 3^{\text{rd}} \text{ october} - 31^{\text{st}} \text{ october} = 29 \text{ days} \\
 &= 1^{\text{st}} \text{ November} - 16^{\text{th}} \text{ November} = +16 \text{ days} \\
 &\quad \quad \quad 45 \text{ days}
 \end{aligned}$$

$\therefore 16^{\text{th}}$ November is the finishing date.

(c) 9th December 23 days New year's day.

sol: $\text{Starting date} = \text{Finishing date} - \text{Duration}$

$$\begin{aligned}
 &= \text{New year's day} - 23 \text{ days} \\
 &= 1^{\text{st}} \text{ january} - 23 \text{ days} \\
 &= 31^{\text{st}} \text{ December} - 9^{\text{th}} \text{ December} = 23 \text{ days} \\
 \therefore \text{Starting date} &= 9^{\text{th}} \text{ december.}
 \end{aligned}$$

(d) 17th july. 8 days 25th july.

sol: $\text{Starting date} = \text{Finishing date} - \text{Duration}$

$$\begin{aligned}
 &= 25^{\text{th}} \text{ july} - 8 \text{ days} \\
 &= 24^{\text{th}} \text{ july} - 17^{\text{th}} \text{ july} = 8 \text{ days} \\
 \therefore \text{Starting date} &= 17^{\text{th}} \text{ july}
 \end{aligned}$$

2: (a) Question on book.

sol: Anjanas school junction is on = 13th November.

Today is = 4th october.

$\therefore$ Days left in Anjanas school junction

$$\begin{aligned}
 &= \text{Starting date} + \text{finishing date} \\
 &= 4^{\text{th}} \text{ october} + 13^{\text{th}} \text{ November} \\
 &= 5^{\text{th}} \text{ october} - 31^{\text{st}} \text{ october} = 27 \text{ days} \\
 &1^{\text{st}} \text{ November} - 13^{\text{th}} \text{ November} = +13 \text{ days} \\
 &\quad \quad \quad 40 \text{ days.}
 \end{aligned}$$

$\therefore$ Days left in Anjana's school function
 $= 40$ days.

(b) Question on book.

sol: Sharad started reading his book on =
 28^{th} April.

He finished reading his book in = 7 days.

$\therefore$ Sharad finished reading his book on =

$= \text{finishing date} = \text{starting date} + \text{Duration}$

$= 28^{\text{th}}$ April + 7 days.

29^{th} April - 30^{th} April = 2 days.

1^{st} May - 5^{th} May = + 5 days

7 days.

$\therefore$ Sharad finished his book on = 5^{th} May

(c) Question on book.

sol: Madhuri started her computer classes
on = 23^{rd} September.

She finished her course in = 90 days.

$\therefore$ Madhuri finished her course on =

Finishing date = starting date + Duration
 $= 23^{\text{rd}}$ September + 90 days.

$= 24^{\text{th}}$ September - 30^{th} September = 7 days.

$= 1^{\text{st}}$ October - 31^{st} October = 31 days.

$= 1^{\text{st}}$ November - 30^{th} November = 30 days.

$= 1^{\text{st}}$ December - 22^{nd} December = + 22 days

90 days.

$\therefore$ Madhuri finished her course on = 22^{nd} Dec

(d) Question on book.

sol: Rajni came back home on = 9th June
 She came back after = 15 days.

∴ Rajni left for Mumbai on =

Starting date = Finishing date - Duration

= 9th June - 15 days

= 8th June - 1st June = 8 days

= 31st May - 25th May = + 7 days

15 days

∴ Rajni left for Mumbai on = 25th May.

(e) Question on book.

sol: Meeta finished her glass painting
 on = 1st March.

She finished her painting in = 12 days.

∴ Meeta started her painting on =

starting date = Finishing date - Duration

= 1st March - 12 days

= 28th February - 17th February = 12 days

∴ Meeta started her glass painting on
 17th February.

———— Term 1st Completed ————