Book 6

DUBAI GRAND SCHOOL INTERNATIONAL

Net

Practice—Unit 1

1. Required number = 1,00,000 – 28,594 = 71,406

2. Successor of 39,999 = 40,000

3. Predecessor of 5000 = 4999

4. Number of required boxes = 400 ÷ 6 = 67 (approx.)

5. Number of hours in 18 days = 18 × 24 = 432 hours

6. Number of boys = 4680 – 3098 = 1582

7. The amount of money Kunal has to pay = 9 × 35 + 9 × 26 = 9(35 + 26) = Rs 549

8. Other number = 5735 – 2680 = 3055

9. Factors of 7: 1, 7
   Factors of 40 = 1, 2, 4, 5, 8, 20, 40
   Factors of 85 = 1, 5, 17, 85

10. Prime factors of 28: 2, 7
    Prime factors of 72 = 2, 3
    Prime factors of 53 = 53

Chapter 1
Knowing Our Numbers

Innings 1.1

1. (a) Greatest number: 6549
   Smallest number: 45

   (b) Greatest number: 9210
   Smallest number: 1092

2. (a) Smallest number: 206
   Greatest number: 620

   (b) Smallest number: 2067

Greatest number: 7620

3. Greatest 5-digit number ending in 1: 99991

4. Greatest : 9876
Smallest : 1023

5. (a) Greatest number: 6650
Smallest number: 5006

(b) Greatest number: 9972
Smallest number: 2279

(c) Greatest number: 8831
Smallest number: 1138

6. (a) Ascending order: 7081, 8018, 8081, 60081
(b) Ascending order: 1023, 1123, 10120, 11120

7. Greatest number: 97510

8. (a) False.
The greatest 4-digit number using the digits 1, 7, 6, 0 without repeating any digit is 7610.

(b) False
1 gram = 1000 mg

(c) False
1 kl = 1000 l

9. Smallest 8-digit number = 10000000
Largest 8-digit number = 99999999
Difference between the two = 89999999
Total 8-digit numbers are = 89999999+1
= 9,00,00,000

Innings 1.2

1. (a) 3,24,670 → Three lakh twenty-four thousand six hundred and seventy
(b) 17,456,800 → Seventeen million four hundred fifty-six thousand eight hundred
(c) 4,98,76,544 → Four crore ninety-eight lakh seventy-six thousand five hundred and forty-four
(d) 2,033,300,002 → Two billion thirty-three million three hundred thousand and two
(e) 8,00,02,207 → Eight crore two thousand two hundred and seven

2 (a) Eleven crore three lakh seven

$\Rightarrow$ 11,03,00,007

(b) Ninety million two thousand

$\Rightarrow$ 90,002,000

(c) Thirty-four lakh five hundred

$\Rightarrow$ 34,00,500

(d) Fifty-nine crore five lakh thirty-two thousand seventy

$\Rightarrow$ 59,05,32,070

(e) Thirteen million eleven

$\Rightarrow$ 13,000,011

(f) Forty lakh eighty thousand fifty

$\Rightarrow$ 40,80,050

3. (a) 87645003

Indian System: 8,76,45,003 $\Rightarrow$ Eight crore seventy-six lakh forty-five thousand and three

International System: 87,645,003 $\Rightarrow$ Eighty-seven million six hundred forty-five thousand and three

(b) 4570010

Indian System: 45,70,010 $\Rightarrow$ Forty-five lakh seventy thousand and ten

International System: 4,570,010 $\Rightarrow$ Four million five hundred seventy thousand and ten

(c) 66006600

Indian System: 6,60,06,600 $\Rightarrow$ Six crore sixty lakh six thousand six hundred

International System: 66,006,600 $\Rightarrow$ Sixty-six million six thousand six hundred

(d) 25783045

Indian System: 2,57,83,045 $\Rightarrow$ Two crore fifty-seven lakh eight-three thousand and forty five

International system: 25,783,045 $\Rightarrow$ Twenty-five million seven hundred eighty-three thousand and forty-five

(e) 1400088

Indian System: 14,00,088 $\Rightarrow$ Fourteen lakh and eighty-eight

International System: 1,400,088 $\Rightarrow$ One million four hundred thousand and eighty-eight

4. Place values of 8 in 80004580 are 80000000 and 80.

Difference = 80000000 – 80

= 79999920

Place values of 8 in 1807968 are 800000 and 8.

Difference = 800000 – 8

= 799992

5. (a) Descending order:

678542, 610000, 609999, 459720

(b) Descending order:

7864625, 7658462, 6874562, 4678265

6. Three consecutive numbers after 5,10,999 are 5,11,000; 5,11,001; 5,11,002.

7. (a)

Number	**Expanded form**							
	Tl	L	T Th	Th	H	T	O	
2,54,658		2	5	4	6	5	8	
(b) 4,00,079		4	0	0	0	7	9	
(c) 36,089,007	TM	M	H Th	T Th	Th	H	T	O
	3	6	0	8	9	0	0	7

8. Smallest 8-digit number using 7 different digits will be 10023456

Indian system : 1,00,23,456

International system : 10,023,456

9. Predecessor of ten lakh in words would be nine lakh ninety-nine thousand nine hundred and ninety-nine, that is, 9,99,999.

In the international system, it would be written as 999,999, that is, nine hundred ninety-nine thousand nine hundred ninety-nine.

10. Greatest 7-digit number having only three different digits would be 9999987.

Indian system: 99,99,987

$\Rightarrow$ Ninety-nine lakh ninety-nine thousand nine hundred eighty-seven

International system: 9,999,987

$\Rightarrow$ Nine million nine hundred ninety-nine thousand nine hundred eighty seven

11. Number of copies published in 2009 = 23,500

Number of copies published in 2010 = 50,900

Number of copies published in 2011 = 1,15,750

Total number of copies published = 1,90,150

12. There are 8 rows in each tier, therefore, total number of rows in three tier would be 8×3 = 24 rows

One row can accommodate 28 cars

24 rows can accommodate $= 24 \times 28$ cars

$= 672$ cars

So 672 cars can be accommodated in one block; hence, the maximum capacity of cars parking if there are 5 such blocks would be $5 \times 672 = 3360$ cars.

Innings 1.3

1. The thickness of mobile phone → Millimetre
   Distance between two cities → Kilometre
   Water in a glass → Millilitre
   Quantity of rice bought from a grocery shop → Kilogram
   Length of a room → Metre
   Weight of a medicine → Milligram
   Weight of a pencil → Gram

2. Distance from Bengaluru to Delhi = 17,33,000 m
   Distance from Delhi to los Angeles = 1,28,74,000 m
   Total distance travelled = 1,46,07,000 m
   Which is equal to 14,607 Km

3. Oil packed in bottle = 750 ml
   Total oil produced = 1800 kl = 1,80,00,00,000 ml
   Therefore number of bottles required = $\frac{1800000000}{750}$
   = 24,00,000 bottles

4. Diameter of Mercury = 48,78,000 m = 4,878 km

   Diameter of Uranus = 5,12,00,000 m = 51,200 km

   Diameter of Uranus is bigger by 51,200 – 4878 km which is equal to 46,322 km

5. Hari's school's distance from home = 500 m

   His father's office's distance from his school = 1 km 200 m = 1200 m

   Total distance of Hari's father's office from home = 500 m + 1200m = 1700 m

Innings 1.4

1. (a) 654 + 714
   ⇒ Rounding off: 700 + 700 = 1400

   (b) 492 + 786
   ⇒ Rounding off: 500 + 800 = 1300

   (c) 21345 + 4308
   ⇒ Rounding off: 21300 + 4300 = 25600

(d) 23844 + 16907
$\Rightarrow$ Rounding off: 23800 + 16900 = 40700

2. (a) 83 – 67
$\Rightarrow$.Rounding off: 80 – 70 = 10

(b) 78 – 36
$\Rightarrow$ Rounding off: 80 – 40 = 40

(c) 6798 – 454
$\Rightarrow$ Rounding off: 6800 – 450 = 6350

(d) 10424 – 8556
$\Rightarrow$ Rounding off: 10420 – 8560 = 1860

(e) 6102 – 3301
$\Rightarrow$ Rounding off: 6100 – 3300 = 2800

3. (a) 93×67
Rounding off: $90 \times 70 = 6300$

(b) 346×59
Rounding off: $350 \times 60 = 21000$

(c) 41×114
Rounding off: $40 \times 110 = 4400$

(d) 291×321
Rounding off: $290 \times 320 = 92800$

(e) 1465×876
Rounding off: $1470 \times 880 = 1293600$

(f) $898 \div 28$
Rounding off: $900 \div 30 = 30$

(g) $632 \div 31$
Rounding off: $630 \div 30 = 21$

4. (a) False.
Estimated sum of 4162 and 21319 rounded off to the nearest hundred is 25,500.

(b) False.
When rounded off to the nearest thousand, the number 63,634 becomes 64,000.

(c) True.

5. Total number of cartons in the warehouse = 4056
   Number of books in each cartons = 53
   Total number of books in the warehouse = 4056×53
   = 214968
   Hence, the better estimate would be 200000 books.

Innings 1.5

1. 959 $\Rightarrow$ CMLIX
   666 $\Rightarrow$ DCLXVI
   147 $\Rightarrow$ CXLVII
   1054 $\Rightarrow$ MLIV
   1148 $\Rightarrow$ MCXLVIII
   97 $\Rightarrow$ XCVII
   74 $\Rightarrow$ LXXIV
   124 $\Rightarrow$ CXXIV
   359 $\Rightarrow$ CCCLIX
   16 $\Rightarrow$ XVI
2. DCV $\Rightarrow$ 605
   CDLXV $\Rightarrow$ 465
   XLIV $\Rightarrow$ 44
   CML $\Rightarrow$ 950
   LXIII $\Rightarrow$ 63
   LXIV $\Rightarrow$ 64
   MDXIV $\Rightarrow$1514
   CMXCIX $\Rightarrow$ 999
   LVI $\Rightarrow$ 56
   DCXXIX $\Rightarrow$629

3. 1869 can be written as MDCCCLXIX.

4. India's year of Independence was 1947 and can be written as MCMXLVII.

5. (a) Greatest 3-digit number = 999
   In roman numerals: CMXCIX

   (b) MCDXVIII can be written as 1418.

Successor 1418 $\rightarrow$ 1419.

(c) Roman numeral D represents 500.
Three numbers preceding D are CDXCVII, CDXCVIII, CDXCIX.

6. (a) $9 \times (21 + 9) = 9 \times 21 + 9 \times 9$
$= 189 + 81 = 270$

(b) $356 - (400 - 289)$
$= 356 - 111 = 245$

(c) 105×95
$= (100 + 5) \times 95 = 100 \times 95 + 5 \times 95$
$= 9500 + 475 = 9975$

(d) $150 - [80 - (15 \times 4 - 6 \times 5)]$
$= 150 - [80 - (60 - 30)]$
$= 150 - [80 - 30]$
$= 150 - 50$
$= 100$

(e) $36 \div (7 \times 8 - 50 + 2 \times 3) - 45 \div (2 \times 5 + 5)$
$= 36 \div (56 - 50 + 6) - 45 \div (10 + 5)$
$= 36 \div (62 - 50) - 45 \div 15$
$= 36 \div 12 - 45 \div 15$
$= 3 - 3 = 0$

(f) $80 \div [90 - \{100 - 5 - 3 \times (7 - 4)\}]$
$= 80 \div [90 - \{100 - 5 - 3 \times 3\}]$
$= 80 \div [90 - \{100 - 5 - 9\}]$
$= 80 \div [90 - \{100 - 14\}]$
$= 80 \div [90 - 86]$
$= 80 \div 4 = 20$

Chapter Innings

1. (i) (c) 9876
(ii) (d) 5010
(iii) (a) XXL
(iv) (d) 9499
(v) (c) 10 lakh

2. (a) 43×56
$= 43 \times (50 + 6)$
$= 43 \times 50 + 43 \times 6$

$= 2150 + 258$
$= 2308$

(b) 109×402
$= (100 + 9) \times 402$
$= 402 \times 100 + 402 \times 9$
$= 40200 + 3618$
$= 43818$

(c) 598×97
$= 598 \times (100 - 3)$
$= 598 \times 100 - 598 \times 3$
$= 59800 - 1794$
$= 58106$

(d) 196×27
$= (200 - 4) \times 27$
$= 200 \times 27 - 4 \times 27$
$= 5400 - 108$
$= 5292$

3. Largest number $\rightarrow$ 9873
Smallest number $\rightarrow$ 3789
Difference = 6084

4. Sum of 46813 and 34568 = 81381
Rounding off to the nearest hundred $\Rightarrow$ 81400
Difference of 46813 and 34568 = 12245
Rounding off to the nearest hundred $\Rightarrow$ 12200

5. Difference between 1 million and 2679 = 997,321

6. 2568 multiplied by 65 gives 166920
2568 multiplied by 56 gives 143808
Difference = 23112

7. Largest 5-digit number = 99999
Smallest 5-digit number = 10000
Difference = 89999
Difference + 1 = 90000
$\therefore$ There are 90000 five-digit numbers.

8. Population of china in 2005 was 1307600000

Population of china in 2001 was 1276300000
Change in population 31300000
$\therefore$ The change in population was thirty-one million three hundred thousand.

9. Time spent by Srivatsan for exercise each day = 45 mins.
Time spent by Srivatsan for exercise in a week = 45×7
= 315 mins.
Or 5 hours 15 mins.

10. Length of the room = 12 metres 500 cm
Length of the room = 17 metres
Width of the room = 2 metres 900 cm
= 11 metres
Difference of width and length = 6 metres or 600 cm

11. Wheat consumption of a student = 250 g
Wheat consumption of 145 students = 250×145 g
$= 250 \times (100 + 45)$ g
$= 250 \times 100 + 250 \times 45$ g
$= 25000 + 11250$ g
$= 36250$ g $= 36.25$ kg
Rice consumption of a student = 150 g
Rice consumption of 145 students = 150×145 g
$= (100 + 50) \times 145$ g
$= 145 \times 100 + 145 \times 50$ g
$= 14500 + 7250$ g
$= 21750$ g $= 21.75$ kg
Pulses consumption of a student = 100 g
Pulses consumption of 145 students = 145×100 g
$= 14500$ g
$= 14.5$ kg
Sugar consumption of a student = 75 g
Sugar consumption of 145 students = 75×145 g
$= (100 - 25) \times 145$ g
$= 145 \times 100 - 145 \times 25$ g
$= 14500 - 3625$ g
$= 10875$ g
$= 10.875$ kg

12. Cost of each books = `43
Cost of 68 books = $`68 \times 43$
$= `68 \times (40 + 3)$
$= `68 \times 40 + `68 \times 3$

= `2720 + `204
= `2924

Cost of one bag of wheat = `105

Cost of 54 bags of wheat = `105 × 54
= `(100 + 5) × 45
= `100 × 45 + `5 × 45
= `4500 + `225
= `4725

First shopkeeper spent less money by `4725 – `2924 = `1801

13. Selling price of one mobile phone = `7000

Selling price of 125 mobile phones = `7000 × 125
= `7000 × (100 + 25)
= `(7000 × 100 + 7000 × 25)
= `(7,00,000 + 1,75,000)
= `8,75,000

Cost price of 35 music systems = `8,75,000

Cost price of each music system = $\text{`} \frac{8,75,000}{35}$
= `25,000

Mental Maths

1. Greatest 5-digit number using the given digits → 88643
Smallest 5-digit number using the given digits → 33468
Difference = 55175

2. Given number = 586701
Number formed by interchanging 5 and 7 = 786501
Difference = 786501 – 586701
= 199800

3. 10 million is 10,000,000
In Indian system: 1,00,00,000 or 1 crore

4. V, L, D cannot be repeated.

5. 243 three-digit numbers have 9 in them.

6. (a) $63 \rightarrow$ LXIII (b) $82 \rightarrow$ LXXXII
(c) $572 \rightarrow$ DLXXII

7. 15 km = 15000000 mm
215 m = 215000 mm
61 cm = 610 mm
Total = 15215610 mm
+ 8 mm
15215618 mm
Indian system: 1,52,15,618
$\Rightarrow$ One crore fifty-two lakh fifteen thousand six hundred and eighteen

Googly

1. Zero has its place value and face value same in every number it is present.

2. Akash is tallest, Sohini is shortest.
Tallest to shortest: Akash, Preeti, Vishu, Sohini.

3. Height of room = 3 m 600 cm = 900 cm
Everyday insect climbs = 1 m 400 cm = 500 cm
Everyday insect slides = 200 cm
Hence, resultant = 500 – 200 = 300 cm

$\therefore$ The insect will take $\frac{900}{300}$ = 3 days to climb the wall

Real-life Connect

Rank of cities

1. Delhi: 1,67,53,235 $\rightarrow$ One crore sixty-seven lakh fifty-three thousand two hundred thirty-five
2. Bengaluru: 95,88,910 $\rightarrow$ Ninety-five lakh eighty-eight thousand nine hundred ten
3. Pune: 94,26,959 $\rightarrow$ Ninety-four lakh twenty-six thousand nine hundred fifty-nine
4. Hydrebad: 68,09,970 $\rightarrow$ Sixty-eight lakh nine thousand nine hundred seventy
5. Kolkata: 44,86,679 $\rightarrow$ Forty-four lakh eighty-six thousand six hundred seventy-nine

Most populous city $\rightarrow$ Delhi $\rightarrow$ 1,67,53,235
Least populous city $\rightarrow$ Kolkata $\rightarrow$ 44,86,679
Difference = 22,66,556

Chapter 2
Whole Numbers

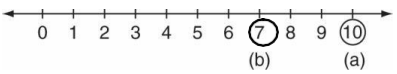
Innings 2.1

1. (a) One
   (b) Left
   (c) Add
   (d) Predecessor
   (e) Two

2. (a) True
   (b) False. Zero is the smallest whole number.
   (c) False. One is the smallest natural number.
   (d) False. On the number line, the smaller number lies to the left of the given number.
   (e) True

3. (a) 38
   (b) 2009
   (c) 1539
   (d) 1,00,019
   (e) 1,04,999
   (f) 2,00,999
   (g) 1,67,893

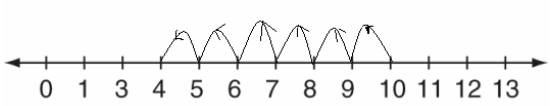
4. (a) 257
   (b) 5,91,002
   (c) 3201
   (d) 562
   (e) 2100
   (f) 4,10,000
   (g) 65,18,09,100

5. 

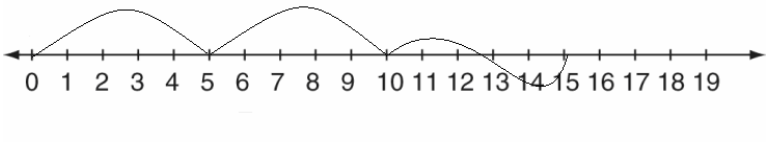
6. 89 – 56 = 33 (which include 89)

   ∴ There are 32 whole numbers between 56 and 89.

7. Let us start from 10. We then move towards the left taking one jump of one unit.
   After making six jumps, we reach 4.



8. Let us start from 0 and move 5 units at a time to the right. We make three such jumps. We reach 15.



Innings 2.2

1. (a) $219 \times \underline{0} = 0$
   (b) $456 \div 456 = \underline{1}$
   (c) $1971 \div 1 = \underline{1971}$
   (d) $314 \times 18 = 314 \times 10 + 314 \times \underline{8}$
   (e) $\underline{487} + 936 = \underline{936} + 487$
   (f) $8769 + 2000 + 135 = 135 + \underline{2000} + 8769$
   (g) $37 \times (93 + 7) = 37 \times \underline{100}$
   (h) $251 \times 100 = 251 \times 94 + \underline{251} \times 6$

2. (a) $567 + 470 + 333 + 230$
   $= (567 + 333) + (470 + 230)$
   $= 900 + 700$
   $= 1600$

   (b) $1983 + 647 + 217 + 353$
   $=(1983 + 217) + (647 + 353)$
   $= 2200 + 1000$
   $= 3200$

   (c) $13{,}518 + 777 + 223 + 482$
   $= (13518 + 482) + (777 + 223)$
   $= 14000 + 1000$
   $= 15000$

   (d) $31 + 32 + 33 + 34 + 35 + 65 + 66 + 67 + 68 + 69$
   $= (31 + 69) + (32 + 68) + (33 + 67) + (34 + 66) + (35 + 65)$
   $= 100 + 100 + 100 + 100 + 100$
   $= 500$

3.

5173	13870
-3988	$-\ 7030$
1185	6840

4. (a) $250 \times 38 \times 40$
$= 38 \times (250 \times 40)$
$= 38 \times 10000$
$= 380000$

(b) $8 \times 693 \times 125$
$= (8 \times 125) \times 693$
$= 1000 \times 693$
$= 693000$

(c) $439 \times 5 \times 60$
$= 439 \times (5 \times 60)$
$= 439 \times 300$
$= 13170$

(d) $2 \times 4 \times 8 \times 50 \times 125$
$= (2 \times 4 \times 125) \times (8 \times 50)$
$= ((2 \times 4) \times 125) \times 400$
$= (8 \times 125) \times 400$
$= 1000 \times 400$
$= 400000$

(e) $5 \times 333 \times 20$
$= 333 \times (5 \times 20)$
$= 333 \times 100$
$= 33300$

5. (a) $24598 \times 159 - 24598 \times 59$
$= 24598 (159 - 59)$
$= 2459800$

(b) $61725 \times 92 + 61725 \times 8$
$= 61725 \times 100$
$=6172500$

(c) $584 \times 99 + 584$
$= 584 \times (99 + 1)$
$= 584 \times 100$
$= 58400$

(d) 268×99
$= 268 \times (100 - 1)$
$= 268 \times 100 - 268$
$=26800 - 268$

= 26532

(e) $45 \times 1001 - 45$
$= 45 \times (1001 - 1)$
$= 45 \times 1000$
$= 45000$

(f) $3845 \times 5 \times 678 + 769 \times 25 \times 322$
$= 769 \times 5 \times 5 \times 678 + 769 \times 25 \times 322$
$= 769 \times 25 \times (678 + 322)$
$= 19225 \times 1000$
$= 19225000$

6. Largest 3-digit number = 999
Smallest 4-digit number =1000
Product $= 999 \times 1000$
$= (1000 - 1) \times 1000$
$= 1000000 - 1000$
$= 999000$

7. $7385 \div 19 = 388$
$\Rightarrow$ Dividend = 7385, Divisor = 19, quotient = 388, Remainder = 13

$$
\begin{array}{r}
388 \\
19\overline{)7385} \\
57 \\
\hline
168 \\
152 \\
\hline
165 \\
152 \\
\hline
13
\end{array}
$$

Now, Quotient × Divisor + Remainder = Dividend

$\Rightarrow 388 \times 19 + 13$

$\Rightarrow 7372 + 13$

$\Rightarrow$ 7385 = Dividend

8. Dance class expenditure for a month = `4500
Dance class expenditure for an year = `4500 × 12
Badminton coaching expenditure for a month = `1750
Badminton coaching expenditure for a year = `1750 × 12
Total expenditure for one year = `4500 × 12 + `1750 × 12
= `(4500 + 1750) × 12
= `6250 × 12
= `75,000

9. Amount spent on refreshments = `17,500
Amount given to event the management company = `25,750
Amount given as tips = `4580
Total expenditure = ` 47,830
Budget for birthday party = `50,000
Amount given for charity = `50,000 – `47,830
= `2,170

10.

$$\begin{array}{r} 53 \\ 65\overline{)3485} \\ 325 \\ \hline 235 \\ 195 \\ \hline 40 \end{array}$$

3485 when divided by 65 leaves a remainder of 40.
Now, 65 – 40 = 25

∴ 25 must be added to 3485 so that it is exactly divisible by 65.

⇒ 3485 + 25 = 3510and 3510 ÷ 65 = 54

Innings 2.3

1. (a) $1 \times 9 + 1 = 10$
$12 \times 9 + 2 = 110$
$123 \times 9 + 3 = 1110$
$1234 \times 9 + \underline{4} = \underline{11110}$
$\underline{12345} \times \underline{9} + \underline{5} = \underline{111110}$
$\underline{123456} \times \underline{9} + \underline{6} = \underline{1111110}$

(b) $19 \times 19 – 18 \times 18 = \underline{361} – \underline{324} = \underline{37} = \underline{19} + \underline{18}$
$25 \times 25 – 24 \times 24 = \underline{625} – \underline{576} = \underline{49} = \underline{25} + \underline{24}$
$101 \times 101 – 100 \times 100 = \underline{10201} – \underline{10000} = \underline{201} = \underline{100} + \underline{101}$

Let the two whole numbers be x and y.

Now $x \times y = 0$

As we know, '0' multiplied by any number is '0'.

∴ either $x = 0$ or $y = 0$ or $x = y = 0$

Let x be s.

Then $s \times y = 0$

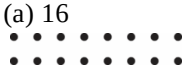
$\Rightarrow y = \frac{0}{s} = 0$

Similarly, when $y = s$, $x = 0$

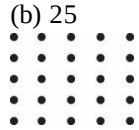
Now let x be 0.

Then $0 \times y = 0$ or $y = 0$

2. (a) 16



(b) 25



(c) 28

(d) 32

3. (a) The sum of the first 20 odd numbers:

$1 + 3 + 7 + 9 + 11 + 13 + 15 + 17 + 19 + 21 + 21 + 23 + 27 + 29 + 31 + 33 + 35 + 37 + 39 = 20^2$

$= 400$

(b) Sum of the odd numbers from 21 to 50

$21 + 23 + 25 + 27 + 29 + 31 + 33 + 37 + 39 + 41 + 43 + 45 + 45 + 47 + 49$

$= 35^2 - 20^2$

$= 1225 - 400$

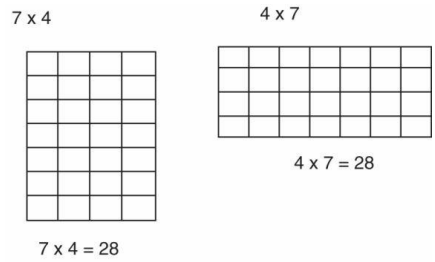
$= 825$

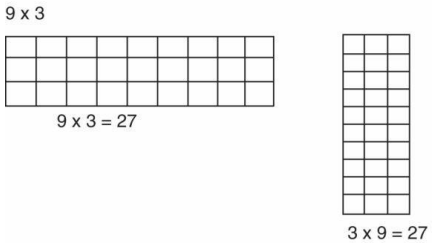
4. $3333 \times 3334 = \underline{11112222}$

$33333 \times 33334 = \underline{1111122222}$

Honing Multiple Intelligences

$7 \times 4 = 28 = 4 \times 7$





Chapter Innings

1. (i) (b) Their difference
   (ii) (c) 3009
   (iii) (e) 49
   (iv) (a) 25
   (v) (b) 2

2. (i) Commutative
   (ii) Commutative
   (iii) $15 \times (8 + 2) = 15 \times 8 + 15 \times \underline{2}$ is true because whole numbers satisfy <u>distributive</u> property of multiplication over <u>addition</u>.
   (iv) <u>1</u> is the multiplicative identity and the additive identity of whole numbers is <u>0</u>.
   (v) Subtraction and division operations.

3. $18 + 23 = 23 + 18$; $25 \times 31 = 31 \times 25$ → Distributivity of multiplication over addition.
   $16 \times (9 + 41) = 16 \times 9 + 16 \times 41$ → Commutative property of addition and multiplication.
   $35 + (17 + 21) = (35 + 17) + 21$ → Associative property of addition.
   $16 \times (29 – 41) = 16 \times 29 – 16 \times 41$ → Distributivity of multiplication over subtraction.

4.
(a) Closure Property:
   (i) $1 + 7 = 8$
   (ii) $17 + 4 = 21$
   (iii) $29 + 13 = 42$

(b) Commutative property of addition:

(i) $1 + 7 = 8 = 7 + 1$

(ii) $17 + 4 = 21 = 4 + 17$

(iii) $29 + 13 = 42 = 13 + 29$

(c) Associative property of multiplication:

(i) $(1 \times 7) \times 3 = 7 \times 3 = 21 = 1 \times (7 \times 3)$

(ii) $(17 \times 4) \times 2 = 68 \times 2 = 136 = 17 \times (4 \times 2)$

(iii) $(29 \times 13) \times 4 = 87 \times 4 = 348 = 29 \times (13 \times 4)$

(d) Distributive property of multiplication over subtraction:

(i) $3 \times (7 - 1) = 18 = 3 \times 7 - 3 \times 1$

(ii) $2 \times (17 - 4) = 26 = 2 \times 17 - 2 \times 4$

(iii) $4 \times (29 - 13) = 64 = 4 \times 29 - 4 \times 13$

5. Smallest 4-digit number = 1000

$1000 \div 27$ gives a remainder of 1.

$$
\begin{array}{r}
37 \\
27\overline{)1000} \\
\underline{81} \\
190 \\
\underline{189} \\
1
\end{array}
$$

$27 - 1 = 26$

$\therefore$ Smallest 4-digit number completely divisible by 27 is $1000 + 26 = \underline{1026}$

6. (i) 1594×499

$= 1594 \times (500 - 1)$

$= 1594 \times 500 - 1594 \times 1$

$= 797000 - 1594$

$= 795506$

(ii) $1548 \times 999 \div 1548$

$= 1548 \times (999 + 1)$

$= 1548 \times 1000$

$= 1548000$

7. The sum of the first 50 whole numbers is 1275.

The product of the first 50 whole numbers will be 0.

Hence, the sum of the first 50 whole numbers (1275) > the product of the first 50 whole numbers (0).

8. Predecessor of 3,65,000 = 3,64,999
Successor of 32,91,999 = 32,92,000
Sum = 36,56,999

9. $40 \times 30 = 1200$

$12{,}500 \div 10 = 1250$

$1250 - 1200 = 50$

$\therefore$ 50 should be added to (40×30) so that the sum is equal to $(12500 \div 10)$.

10. Milk sold on Saturday and Sunday = (45 + 59)
Cost of milk = ` 21 per *l*
Total amount earned by arun = $(45 + 59) \times 21$
$= 45 \times 21 + 59 \times 21$
$= 945 + 1239$
= ` 2184

Mental Maths

1. (a) 0
2. (c) 9988
3. (c) 4×4
4. (b) 33
5. (a) $(51 \times 7) \times 14 = 357 \times 14$
$= 4998$
Now, $51 \times (7 \times 14) = 51 \times 98$

= 4998

Hence $(51 \times 7) \times 14 = 51 \times (7 \times 14)$

$\Rightarrow$ Associative property of multiplication holds true.

(b) $25 \times (11 \times 10) = 25 \times 110$

$= 2750$

$(25 \times 11) \times 10 = 275 \times 10$

$= 2750$

$\therefore \quad 25 \times (11 \times 10) = (25 \times 11) \times 10$

$\Rightarrow$ Associative property of multiplication holds true.

(c) $(164 \times 6) \times 9 = 984 \times 9$

$= 8856$

$164 \times (6 \times 9) = 164 \times 54$

$= 8856$

$\therefore (164 \times 6) \times 9 = 164 \times (6 \times 9) = 8856$

$\Rightarrow$ Associative property of multiplication holds true.

Googly

1. (a) Not defined
   (b) 0
   (c) Not defined
   (d) Not defined

2. No

CHAPTER 3

Playing With Numbers

Innings 3.1

1. (i) multiple

   (ii) l

   (iii) multiples and factors

(iv) first

2.

Number	Factors
13	1, 13
19	1, 19
25	1, 5, 25
42	1, 2, 3, 6, 7, 14, 21, 42
56	1, 2, 4, 7, 8, 14, 28, 56
75	1, 3, 5, 15, 25, 75
100	1, 2, 4, 5, 10, 20, 25, 50

3.

Number	First five multiples
9	9, 18, 27, 36, 45
15	15, 30, 45, 60, 75
20	20, 40, 60, 80, 100
25	25, 50, 75, 100, 125
30	30, 60, 90, 120, 150

4. (i) Multiples of 2 between 11 and 35 are:

12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34

(ii) 6 and 28 are two perfect numbers less than 50.

Innings 3.2

1. (i) 3 (ii) 4 (iii) 19 (iv) 2

(v) prime

(vi) 25 (2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97)

(vii) 9

2. (i) False (ii) False (iii) False (iv) False (v) False

3. (i) Twin primes (ii)

(iii) 97 (iv) 14

(v) 2 and 3

4. (i) Prime numbers between 1 and 30:

2, 3, 5, 7, 11, 13, 17, 19, 23, 29

(ii) Prime numbers between 50 and 80:

53, 59, 61, 67, 71, 73, 79

5. 28 = 5 + 23

44 = 7 + 37

60 = 7 + 53

88 = 5 + 83

90 = 7 + 83

100 = 3 + 97

6. 12 = 5 + 7

36 = 17 + 19

84 = 41 + 43

144 = 71 + 73

7. 7 and 13

3 and 17

11 and 19

17 and 23

17 and 13

8. 90, 91, 92, 93, 94, 95, 96

Innings 3.3

1. (i) b (ii) d (iii) d

2. (i) 7875 is divisible by 9.
(ii) 476502 is divisible by 3; 4765 $\boxed{9}$ 2 is divisible by 3.

(iii) 416823 is divisible by 11.

(iv) 927324 is divisible by 6; 9273 $\boxed{8}$ 4 is divisible by 4.

(v) 193128 is divisible by 8; 193 $\boxed{9}$ 28 is divisible by 8.

(vi) 34100 is divisible by 5; 341 $\boxed{9}$ 5 is divisible by 5.

3. (i) False

(ii) True

(iii) True

(iv) False

(v) True

4. (i) Numbers ending in 0, 2, 4, 6, 8 are divisible by 2.

$\therefore$ 8740 is divisible by 2 and 169305 and 60667 are not.

(ii) For a number to be divisible by 3, the sum of digits of the number must be divisible by 3.

236144: 2 + 3 + 6 + 1 + 4 + 4 = 20

20 is not divisible 3, and hence, 236144 is not by 3.

1111: 1 + 1 + 1 + 1 = 4

4 is not divisible by 3, and hence, 1111 is not divisible by 3.

615381: 6 + 1 + 5 + 3 + 8 + 1 = 24

24 is divisible by 3. $\therefore$ 615381 is divisible by 3.

(iii) For a number to be divisible by 4, the number formed by the last two digits of the number should be divisible by 4.

3948: 48 is divisible by 4. $\therefore$ 3948 is divisible by 4.

571320: 20 is divisible by 4. ∴ 571320 is divisible by 4.

44444: 44 is divisible by 4. ∴ 44444 is divisible by 4.

(iv) For a number to be divisible by 8, the number formed by the last three digits of the number should be divisible by 8.

321128: 128 is divisible by 8: ∴ 321128 is divisible by 8.

4016: 016 is divisible by 8. ∴ 4016 is divisible by 8.

6500: 500 is not divisible 8. ∴ 6500 is not divisible by 8.

9864: 864 is divisible by 8. ∴ 9864 is divisible by 8.

(v) For a number to be divisible by 9, sum of all the digits of the number should be divisible by 9.

13146: 1 + 3 + 1 + 4 + 6 = 15. 15 is not divisible by 9.

∴ 13146 is not divisible by 9.

13995: 1 + 3 + 9 + 9 + 5 = 27. 27 is divisible by 9.

∴ 13995 is divisible by 9.

53766: 5 + 3 + 7 + 6 + 6 = 27. 27 is divisible by 9.

∴ 53766 is divisible by 9.

(vi) For a number to be divisible by 11, the difference between the sums of its alternate digits should be zero or divisible by 11.

22222: 2 + 2 + 2 = 6 and 2 + 2 = 4

$6 - 4 = 2 \neq 0$

As 2 is not divisible by 11, 22222 is not divisible by 11.

78419: 7 + 4 + 9 = 20 and 8 + 1 = 9

20 – 9 = 11

As 11 is divisible by 11, 78419 is divisible by 11.

61537: 6 + 5 + 7 = 18 and 1 + 3 = 4

$18 - 4 = 14 \neq 0$

As 14 is not divisible by 11, 61537 is not divisible by 11.

5. (i) 60 is divisible by 5 and 10 but not by 50.

(ii) 24 is divisible by 3 and 6 but not by 18.

(iii) 84 is divisible by 6, 7 and 4.

Innings 3.4

1. (a) Factors of 36: 1, 2, 3, 4, 6, 9, 12, 18, 36

Factors of 45: 1, 3, 5, 9, 15, 45

Common factors: 1, 3, 9

(b) Factors of 75: 1, 3, 5, 15, 25, 75

Factors of 100: 1, 2, 4, 5, 10, 20, 25, 50, 100

Factors of 125: 1, 5, 25, 125

Common factors: 1, 5, 25

(c) Factors of 56: 1, 2, 4, 7, 8, 14, 28, 56

Factors of 120: 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 24, 30, 40, 60, 120

Common factors: 1, 2, 4, 8

2. (a) 105, 210, 315, ….

(b) 40, 80, 120, …

(c) 72, 144, 216, …

3. (a) Factors of 21: 1, 3, 7, 21

Factors of 61: 1, 61

Common factors: 1

∴ 21 and 61 are co-primes.

(b) Factors of 26: 1, 2, 13, 26

Factors of 65: 1, 5, 13, 65

Common factors: 1, 13

∴ 26 and 65 are not co-primes.

(c) Factors of 45: 1, 3, 5, 9, 15, 45

Factors of 54: 1, 2, 3, 6, 9, 18, 27, 54

Common factors: 1, 3, 9

∴ 45 and 54 are not co-primes.

4. (i) $140 = 2 \times 2 \times 5 \times 7$

(ii) $2094 = 2 \times 3 \times 349$

(iii) $490 = 2 \times 5 \times 7 \times 7$

(iv) $4631 = 11 \times 421$

5. Smallest 4-digit number = 1000

$1000 = 2 \times 2 \times 2 \times 5 \times 5 \times 5$

6. Smallest number with 4 different prime factors would be

$2 \times 3 \times 5 \times 7 = 210$

7. 23100: 2 + 3 + 1 + 0 + 0 = 6

As 6 is divisible by 3, ∴ 23100 is divisible by 3.

Also 2 + 1 + 0 = 3

3 + 0 = 3

3 – 3 = 0

∴ 23100 is divisible by 11.

23100 ÷ 3 = 7700

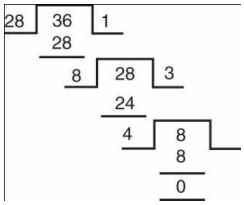
and 7700 ÷ 11 = 700 ? $23100 = 3 \times 11 \times 700$

∴ 23100 is divisible by 33.

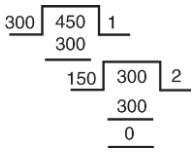
8. Factors of 1729: 1, 7, 13, 19, 91, 133, 247, 1729

Innings 3.5

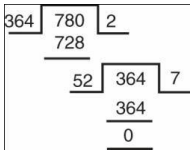
1. (i)



HCF of 28 and 36 is 4.



HCF of 300 and 450 is 150



HCF of 364 and 780 is 52.

2. (i)

2	62, 79,132
2	31, 79, 66
3	31, 79, 33
	31, 79,11

LCM of 62, 79, 132 = 2 × 2 × 31 × 79 × 3 × 11 = 323268

(ii)

3	75, 60,105
5	25, 20,35
	5, 4, 7

LCM of 75, 60, 105 = 3 × 5 × 5 × 4 × 7
= 2100

(iii)

2	80, 96,125
2	40, 48,125
2	20, 24,125
2	10,12,125
5	5, 6,125
	1, 6, 25

LCM of 80, 96, 125 = 2 × 2 × 2 × 2 × 5 × 6 × 25 = 12000

3. To find the largest number that will divide 113, 135 and 160 leaving 5, 3 and 4 remainders respectively, we need to find HCF of 113 – 5; 135 – 3 and 160 – 4, i.e., 108, 132 and 156

2	108
2	54
3	27
3	9
3	3
	1

2	132
2	66
3	33
11	11
	1

2	156
2	78
3	39
13	13
	1

Highest common factor of 108, 132, 156 = 2 × 2 × 3 = 12

4. As 31 and 53 are prime numbers, the smallest 4-digit number exactly divisible by 31 and 53 would be 31 × 53 = 1643.

5. We need to find the HCF of 108, 162 and 270.

1	108
2	54
3	27
3	9
3	3
	1

2	162
3	81
3	27
3	9
3	3
	1

2	270
3	135
3	45
3	15
5	5
	1

HCF of 108, 162 and 270 = 2 × 3 × 3 × 3 = 54

∴ Each bus can carry 54 students.

Total students = 108 + 162 + 270

= 540

∴ The number of buses required = 540 ÷ 54

= 10

6. As product of two numbers = product of their HCF and LCM

$\Rightarrow$ $2073 = 24 \times LCM$

or $LCM = 20736 \div 24$

$= 864$

Chapter Innings

1. (i) (b) 1 (ii) (a) 22 (iii) (b) 300 (iv) (c) 3 (v) (b) co-prime

2. We need to find the LCM of 21, 27 and 35.

3	21, 27, 35
7	7, 9, 35
	1, 9, 5

LCM of 21, 27, 35 = $3 \times 7 \times 9 \times 5 = 945$

Required number = $947 - 3 = 942$

3. First person takes 3 mins 20 seconds = 200 seconds

Second person takes 3 mins 40 seconds = 220 seconds

Third person takes 4 mins = 240 seconds

2	200, 220, 240
2	100, 110, 120
2	50, 55, 60
5	25, 55, 30
	5, 11, 6

LCM of 200, 220 and 240 = $2 \times 2 \times 2 \times 5 \times 6 \times 11 \times 5$

$= 13,200$

$\therefore$ They will meet after 13200 seconds, i.e. 3 hours 40 minutes or at 03:40 PM.

4. As 220 is not divisible by 15

$\therefore$ Two numbers can't have 15 as their HCF and 220 as their LCM.

5. We need to find the LCM of 10, 15 and 18.

2	10, 15, 18
3	5, 15, 9
5	5, 5, 3
	1, 1, 3

$LCM = 2 \times 3 \times 3 \times 5$

LCM of 10, 15 and 18 = 90

$\therefore$ A minimum of 90 students are required to form such groups.

6. LCM of 150, 125 and 84 will be

2	150,125,84
3	75,125,42
5	25,125,14
5	5,25,14
	1,5,14

LCM = $2 \times 3 \times 5 \times 5 \times 5 \times 14 = 10500$

The three frogs will again jump together after 10,500 cm or 105 m.

7. We need to find HCF of 240, 318 and 426.

2	240
2	120
2	60
2	30
3	15
5	5
	1

2	318
3	159
53	53
	1

2	426
3	213
71	71
	1

HCF = $2 \times 3 = 6$

$\therefore$ The greatest possible length of each piece = 6 cm

Mental Maths

1. Two numbers with LCM 4 and sum 5 will be 1 and 4.

2. (i) Factors of 9: 1, 3, 9

Factors of 15: 1, 3, 5, 15

Common factors: 1, 3

(ii) Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24

Factors of 36: 1, 2, 3, 4, 6, 9, 12, 18, 36

Common factors: 1, 2, 3, 4, 6, 12.

(iii) Factors of 36: 1, 2, 3, 4, 6, 9, 12, 18, 36

Factors of 63: 1, 3, 7, 9, 21, 63

Common factors: 1, 3, 9.

3. (i)

2	18, 24
3	9,12
	3, 4

LCM of 18 and 24 = 2 × 3 × 3 × 4 = 72

(ii)

2	12, 18
3	6,9
	2,3

LCM of 12 and 18 = 2 × 2 × 3 × 3 = 36

(iii)

	9, 13

LCM of 9 and 13 = 9 × 13 = 117

4. LCM = 36

The two numbers should be factors of the LCM. Factors of 36 between 10 and 20 are: 12 and 18.

∴ The two numbers are 12 and 18.

5. The number lies between 15 and 20. 17 and 19 are not exactly divisible by either 3 or 4.

17 ÷ 3 gives a remainder 2.

17 ÷ 4 gives a remainder 1.

∴ The number is 17.

Googly

1. The single-digit natural number that has exactly three factors is 4. It has three factors—1, 2, 4.

2. 15 (as it has 3 and 5 in its tree)

3. 1

Real-life Connect

We need to find the HCF of 162, 216 and 306

2	162
3	81
3	27
3	9
3	3
	1

2	216
2	108
2	54
3	27
3	9
3	3
	1

2	306
3	153
3	51
	17

HCF = $2 \times 3 \times 3 = 18$

$\therefore$ A maximum of 18 chocolates can be packed in 1 packet.

Unit Innings 1

1. Smallest 6-digit number: 1,00,000

   Predecessor: 99,999

2. Place value of 7 in 6,76,130 = 70,000

   Face value of 7 in 6,76,130 = 7

   Product = $7 \times 70{,}000 = 4{,}90{,}000$

3. (i) 97×53

   $\approx 100 \times 53$

   $= 5300$

   (ii) 103×97

   $\approx 100 \times 100$

   $= 10{,}000$

   (iii) $12{,}904 + 2888$

   $\approx 13{,}000 + 3000$

   $= 16{,}000$

4. Cocoa required for one bar of chocolate = 15 g

   97.5 kg cocoa can be used in $\frac{97,500}{15} = 6500$ bars

5. 657→ DCLVII

494 → CDXCIV

6. (i) $88 \times 76 + 12 \times 76$

$= (88 + 12) \times 76$

$= 100 \times 76$

$= 7600$

(ii) $100 \times 499 - 99 \times 100$

$= 100 \times (499 - 99)$

$= 100 \times 400 = 40{,}000$

7. (a) $51 + 52 + 53 + \ldots + 60 = 555$

(b) $121 + 122 + 123 + \ldots + 130 = 1255$

(c) $891 + 892 + 893 + \ldots + 900 = 855$

8. LCM of 2, 3, 4, 56 will be

2	2,3, 4,5, 6
3	1,3, 2,5, 3
	1,1, 2,5,1

LCM = $2 \times 2 \times 3 \times 5 = 60$

$\therefore$ 60 lies between 59 and 61 which is a pair of twin primes.

9. When we divide 4135 by 37, we get 28 as the remainder. Thus, the smallest number to be added to 4135 to make it exactly divisible by 37 will be $37 - 28 = 9$.

10. A number divisible by 9 will also be divisible by 3.

The smallest four-digit number is 1000. When we divide 1000 by 9, we get 1 as the remainder. We should add $9 - 1 = 8$ to 1000 to make it divisible by 9.

So, $1000 + 8 = 1008$ is the smallest four-digit number that is divisible by both 3 and 9.

11. We need to first find the LCM of 14, 28 and 91.

2	14, 28, 91
7	7,14, 91
	1, 2,13

LCM = $2 \times 2 \times 7 \times 13 = 364$

$\therefore$ The required number = 364 + 1

$= 365$

12. Greatest 1-digit number = 9

LCM of 3 and 9 = 9

3	3, 9
	1, 3

LCM = $3 \times 3 = 9$

13. Smallest composite number = 4; smallest 2-digit number = 10

LCM of 4 and 10 = 20

2	4, 10
	2, 5

LCM = $2 \times 2 \times 5 = 20$

14. 1 is the HCF of two consecutive odd numbers.

15. As they are co-primes, their LCM will be equal to their product, i.e. 117.

16. We need to find the HCF of 6 and 5

HCF = 1

$\therefore$ Largest size of tiles = 1 m^2

The number of tiles required = $6 \times 5\ m^2 \div 1\ m^2$

$= 30 \div 1$

$= 30$

17. Length of 1st rope = 6 m 30 cm = 630 cm

Length of 2nd rope = 5 m 85 cm = 585 cm

Length of 3rd rope = 3 m 60 cm = 360 cm

We need to find the HCF of 630, 585 and 360.

2	630
3	315
3	105
5	35
7	7
	1

3	585
3	195
5	65
	13

2	360
2	180
2	90
3	45
3	15
5	5
	1

HCF = $3 \times 3 \times 5 = 45$

∴ The greatest length possible of each piece is 45 cm.

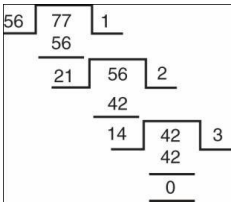
Formative Assessment 1

1. Factors of 63: 1, 3, 7, 9, 21, 63

   Prime factors of 63: 3, 7

   Sum of prime factors of 63 = 3 + 7 = 10

2. We need to find HCF of 56 and 77



   $k - 8 = 14$

   or $k = 22$

3.

$$\begin{array}{r} 21397 \\ +\ 42505 \\ \hline 63902 \end{array}$$

   Rounding off, we get: 64,000

4. Batteries in each toy = 4

   No. of toys = 20

   Batteries needed = $4 \times 20 = 80$

   Batteries in 1 packet = 16

   Packets required = $\frac{80}{16} = 5$

5. Electronic devices beep after 30 minutes, 60 minutes, 90 minutes and 105 minutes, respectively.

   We need to find the LCM of 30, 60, 90 and 105.

2	30, 60, 90,105
3	15, 30, 45,105
5	5,10,15,35
	1, 2, 3,7

LCM = 2 × 2 × 3 × 3 × 5 × 7 = 1260

They will beep together again after 1260 minutes, i.e., 21 hours or at 9:00 A.M. the next day.

6. Sweets in each box = 228

Boxes bought = 19

Total sweets = 228 × 19 = 4332

Sweets distributed = 519

Sweets left = 4332 − 519 = 3813

7. (i) LXXIV →74 (ii) CCCLIX →359

(iii) MCDXII → 1412 (iv) MDCLVI → 1656

(v) DCCXLVI → 746

8. (i) 99 : XCIX (ii) 213 : CCXIII

(iii) 767 : DCCLXVII (iv) 588 : DLXXXVIII

(v) 1759 : MDCCLIX

9. Cloth produced in 7 weeks = 2,75,576 m

Cloth produced in 1 day = $\frac{2,75,576}{7\times7}$ m = 5624 m

10. Salary of 1 employee per month = `5862

Salary of 107 employees per month = `5862 × 107

= `5862 × (100 × 7)

= `5862 × 100 + `5862 × 7

= ` (5,86,200 + 41,034)

= `6,27,234

11. Petrol filled on first day = 40 ℓ

Petrol filled on second day = 45 ℓ
Cost of petrol = `54 per ℓ

Total petrol = 85 ℓ

Total cost of petrol = `85 × 54

= `4590

12. (a) 363 + 243 + 57

= 363 + (243 + 57) [Associative property]

= 363 + 300

= 663

(b) 96 × 73 – 94 × 73

= (96 – 94) × 73

= 2 × 73

= 146

(c) 996 × 16

= (1000 – 4) × 16

= 1000 × 16 – 4 × 16

= 16000 − 64

= 15936

13. Total amount = `16,27,000

The number of 500-rupee note = $\frac{16,27,000}{500}$ = 3254

14. 5684 × 98 = 5684 × (100 – 2)

= 5684 × 100 – 5684 × 2

= 5684 − 11368

= 5,57,032

5684 × 89 = 5684 × (90 – 1)

= 5684 × 90 – 5684 × 1

$= 511560 - 5684$

$= 505876$

Difference $= 557032 - 505876$

$= 51156$

15. Population of first city = 3,68,509

Population of second city = 48,57,329

Population of third city = 30,95,864

Total = $\overline{83,21,702}$

Eighty-three lakh twenty-one thousand seven hundred two

16. We need to find the LCM of 28, 32, 40, 56.

2	28,32, 40, 56
2	14,16, 20, 28
2	7,8,10,14
7	7, 4,5, 7
	1, 4,5,1

LCM = $2 \times 2 \times 2 \times 4 \times 5 \times 7 = 1120$

Required number = 1120 + 11 = 1131

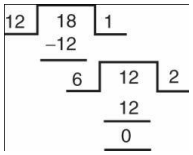
17. We need to find the LCM of 10, 15 and 18.

2	10,15,18
3	5,15,9
5	5, 5,3
	1,1,3

LCM = $2 \times 3 \times 5 \times 5 = 150$

Required number = 157

18. We need to find the HCF of 12 and 18.



HCF = 6

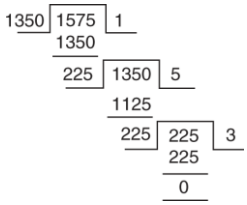
∴ Length of the longest rod = 6

19. LCM of 10, 15 and 20 = 2 × 2 × 3 × 5 = 60

2	10,15,20
5	5,15,10
	1,3,2

∴ The required number of toffees = 60 + 5 = 65

20. We need to find the HCF of (1360 – 10) and (1600 – 25), that is 1350 and 1575



∴ The required number is 225.

Net Practice—Unit 2

2. (i) Perpendicular (ii) parallel

3. Diameter = 2 × Radius

= 2 × 1.8 cm = 3.6 cm

4. Zero/None

5. (a) PQRS, quadrilateral

(b) PQ and RS

(c) Q
S
)
∠
A
O
B

6. (

a

(b) ∠AOD

(c) $\angle BOD$ asure an angle.

There are 360 degrees in a complete angle.

7. Infinite

8. (a) *AO*

9. Equilateral triangle

10. Protractor is used to me