MATHEMATICS

1. Fill in the blanks:

(i) The largest number of 5 digits is 99999 and the smallest number 6-digits is 100000

(ii) The difference between the smallest number of four digits and the largest number of three digits = 1000 − 999 = 1

(iii) Four lakh Sixty-Seven thousand three hundred Six.

= 4,67,306 (In numberical form)

= 467,306 (In International System)

= 467,306. (In International numeration)

(iv) Thirteen lakhs forty-five.

= 13,00,045 (In numerical form)

= 1,300,045 (In Indo International System)

= 1,300,045 (In International numeration)

(v) On Subtracting one from the smallest four-digit number, we get 999 which is the largest three digit number.

2. MCQs

i) Which is the smallest factor of 2314?

2

ii) Which is the smallest odd composite number?

3

iii) Which of the following is divisible by 2 but not by 4?

a) 102

iv) Find the smallest number which, when divided by 12, 15, 18, 24 and 36 leaves no remainder.

a) 360

v) Find the smallest number which, when increased by one is exactly divisible by 12, 18, 24, 32 and 40.

a) 1439

vi) The product of two numbers is 19,200 and their H.C.F is 40. Find their L.C.M.

b) 480

3. Write 428140625 by placing the commas according to International System.

428,140,625

4. Take two digits 4 and 5. The smallest 4-digit number using the digits equal number of times is

a) 4455

5. Form the largest number with the digits 2, 3, 5, 9, 6 and 0 without repetition of any digit.

Largest number = 9,65,320

6. Write the smallest and the greatest numbers of 4 digits without repetition of any digit.

Smallest = 1023

Largest = 9876

7. Write the cardinal number of

F = {whole numbers from 8 to 14}

F = {8, 9, 10, 11, 12, 13, 14}

8. Solve

i) $2y - 5 = -11$

$2y = -11 + 5$

$2y = -6$

$y = \frac{-6}{2} = 3$

$y = 3$

ii) $5y - 3.5 = 10$

$5y = 10 + 3.5$

9. In an election two candidates A and B are the only contants. If candidate A scored 932567 votes and candidate B scored 900235 votes, by how much margin did A win or lose the election?

Total votes of candidate A = 932567

Total votes of candidate B = 900235

$$\begin{array}{r} 932567 \\ -\ 900235 \\ \hline 32332 \end{array}$$

∴ The candidate A win the election by 32,332 margin.

10. Starting from the greatest 5-digit numb write the previous five numbers in descendi order.

99999, 99998, 99994, 99993, 9999

11. Starting from the smallest 7-digit number, write the next four numbers in ascending order

1000000, 1000001, 1000002, 1000003, 1000004

12. By re-arranging the given number evaluate:

(i) $2 \times 487 \times 50$

$= 2 \times 50 \times 487$

$= 100 \times 487$

$= 48700$

(ii) $25 \times 444 \times 4$

$= 25 \times 4 \times 444$

$= 100 \times 444$

$= 44400$

13. Evaluate using properties

(i) 548×98

(ii) 924×997

$= (900 + 20 + 4) \times 988$

$= 900 \times 988 + 20 \times 988 + 4 \times 988$

$= 889200 + 19760 + 3952 = 912912$

(iii) 3003×723

$= (3000 + 20 + 3) \times 723$

$= 3000 \times 723 + 20 \times 723 + 3 \times 723$

$= 2169000 + 14460 + 2169 = 2185629$

Add

(i) 259 and 214

$= 259 + 214$

$= 259$

$+214 = 473$

473

(ii) -528 and -243

$= -528 + (-243)$

$= -528 - 243$

$= 528$

$+243 = -741$

-741

(iii) -623 and 326

$= -623 + 326$

$= -623$

$+326 = -297$

297

(14) Subtract

(i) -123 from 453

$= -123 - 453 = 453 - 123$

$= 453$

$-\ 123 \quad = 330$

330

(ii) -78 from -12

$= -12 - (-78)$

$= -12 + 78$

$= -78 \quad = 66$

$-\ 12$

66

(iii) ~~-123 and 329~~ 329 from -124

$= -124 - 329$

$= 329$

$+\ 124 \quad = -453$

453

(iv) -222 from 0

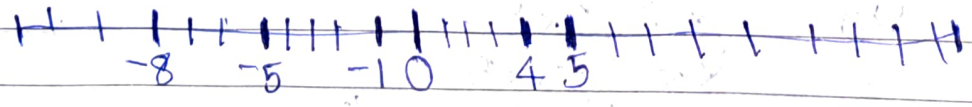
$= 0 - (-222)$

$= 0 + 222$

$= 222$

15.

i) $-8, 0, -5, 5, 4, -1$



$= -8 < -5 < -1 < 0 < 4 < 5$

ii) 3, -3, 4, -7, 0, -6, 2

$= -7 < -6 < -3 < 0 < 2 < 3 < 4$

16. Find the H.C.F. of;

i) 5 and 8

$5 = 1 \times 5$

$8 = 1 \times 2 \times 2 \times 2$

C.F = 1

H.C.F = 1

ii) 24 and 49

$24 = 2 \times 2 \times 2 \times 3$

$49 = 7 \times 7$

C.F = 1

H.C.F = 1

iii) 40, 60 and 80

$40 = 2 \times 2 \times 2 \times 5$

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

$80 = 2 \times 2 \times 2 \times 2 \times 5$

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

H.C.F = 20

iv) 48, 84 and 88

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

$84 = 2 \times 2 \times 3 \times 7$

$88 = 2 \times 2 \times 2 \times 11$

C.F = 2×2

H.C.F = 4

v) 12, 16 and 28

$12 = 2 \times 2 \times 3$

$16 = 2 \times 2 \times 2 \times 2$

$28 = 2 \times 2 \times 7$

C.F = 2×2

H.C.F = 4

17. The H.C.F and the L.C.M. of two numbers are 50 and 300 respectively. If one of the numbers is 150, find the other one.

The H.C.F of two numbers = 50

The L.C.M of two numbers = 300

One of the numbers = 150

$$\begin{array}{r} 300 \\ \times\ 50 \\ \hline 000 \\ +1500 \\ \hline 15000 \end{array}$$

$$\begin{array}{r|l} & 100 \\ \hline 150 & 15000 \\ & -150\downarrow \\ \hline & 0000 \\ & -0 \\ \hline & 0000 \end{array}$$

$= 100$

classmate
Date
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18. The product of two numbers is 432 and their L.C.M is 72. Find their H.C.F.

The product of two numbers is = 432
Their L.C.M is = 72.
H.C.F = 432 ÷ 72

$$72 \overline{)432} = 6$$
-432
000

72 × 4 = 288

∴ H.C.F = 6

72 × 6 = 432

19. ~~Write the~~ degree of each polynomials?

i) x + x2
$x + x^2 = 2$

ii) 5x2 − 7x + 2
$5x^2 - 7x + 2 = 2$

iii) x3 − x8 + x10
$x^3 - x^8 + x^{10} = 10$

iv) 1 − 100x20
$1 - 100x^{20} = 20$

16.

i) $5xy$

A:) $5xy = 5$

ii) abc

A:) $abc = 1$

iii) $5pqr$

A:) 5

iv) $\frac{-2x}{y}$

A:) $\frac{-2x}{y} = -2$

21. Without making any actual division show that 2300023 is divisible by 23.

$$2300023 = 2300000 + 23$$
$$= 23 \times (100000 + 1)$$
$$= 23 \times 100001$$

Clearly, 2300023 is divisible by 23.

22.

i) 11011

$= 11000 + 11$

$= 11 \times (1000 + 1)$

$= 11 \times 1001$

clearly, 11011 is divisible by 11.

ii) 11001

$= 11000 + 11$

$= 11 \times (10000 + 1)$

$= 11 \times 1000|$

clearly, 11001 is divisible by 11.

iii) 1100011

$= 11000000 + 11$

$= 11 \times (1000000 + 1)$

$= 11 \times 100001$

clearly, 11000 is divisible by 11.

23.

i) 1608

$= 1600 + 8$

$= 8(200 + 1)$

$= 8 \times 201$

clearly, 1608 is divisible by 8

ii) 56008
= 56000+8
= 8x(7000+1)
= 8x7001

Clearly, 56008 is divisible by 8.

iii) 240008
= 240000+8
= 8x(30000+1)
= 8x30001

24.

i) 352

A: The given number = 352
Digit at unit's place = 2
It is divible by 2

ii) 523

The given number = 523.
Digit at unit's place = 3
It is not divisible.

iii) 496

The given number = 496
Digit at unit's place = 6
It is divisible by 2.

25. i) 9990

Here, unit's digit is 0

9990 is divisible by 10

ii) 0

Here, unit digit is 0

0 is divible by 10

iii) 847

847 is not divisible by 10.

iv) 8976

8976 is not divisible by 10

26

i) 5918

sum of digits at odd places = 5+1=6

Sum of the digit at even places = 9+8=17

Their difference = 17 − 6 = 11

5918 is divisible by 11.

ii) 68,717

Sum of digits at odd places = 6+7+7=20

sum of digits at even places = 8+1=9

Difference = 20−9=11

which is divisible by 11

68717, is divisible by 11.

iii) 3882

Sum of digits at odd places = 3+8 = 11

Sum of digits at even places = 8+2 = 10

Difference = 11 - 10 = 1.

3882 is not divisible by 11.

27.

i) 64M3

A: The given number = 64M3

Sum of its digit = 6+4+3

= 13

Required smallest no — 15-13

= 2

ii) 46M46

Sum = 4+6+4+6

= 20

21-20

= 1

iii) 27 M 53

~~The given~~

Sum = 2 + 7 + 15 + 3

= 18

Required number = 0

28.

A) Cost of one pencil = Rs 2

Cost of one fountain Pen = Rs 15

cost of x pencils = 2x

cost of y fountain pens = 15y

So the cost of x pencils and fountain pens = Rs (2x + 15y)

∴ The cost of x pencils and y fountain pens is Rs (12x + 15y).

Q9.

A: Let the number be x
The number multiplied by 5 = 5x
The result is added to 6 = 5x + 6
The result is subtracted from y = 5x + 6 − y.

∴ 5x + 6 = y.

30

A: Number of rooms on the first floor = x
Twice the number of rooms on the first floor = 2x

We know that the word 'less than' a number means 'subtraction it from a number'.

∴ 12 less than the number of rooms on the first floor = 2x − 12