HOLIDAY WORKSHEET

1. Fill in the blanks:

(i) The largest number of 5 digits is 99,999 and the smallest number of 6-digits is 1,00,000

(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 numeral form)
= 467,306 (In International system)
= Four hundred sixty seven thousand three hundred six (In International Numeration)

(iv) Thirteen lakh forty-five.
= 13,00,045 (In numeral form)
= 1,300,045 (In International system)
= One million three hundred thousand forty five (In International numeration)

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

2. Choose the correct answer.

(i) Which is the smallest factor of 2314?
(a) 2314 (c) 2
(b) 1 (d) 1157

(ii) Which is the smallest odd composite number?
(a) 1 (c) 9
(b) 3 (d) 15

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

(a) 102 (c) 340
(b) 228 (d) 556

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

(a) 1439 (c) 650
(b) 1340 (d) 780

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

(a) 360 (c) 180
(b) 720 (d) 480

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

(a) 380 (c) 680
(b) 480 (d) 160

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

Ans - 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 (c) 5454
(b) 5544 (d) 4545

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

Ans - 965320

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

Ans - Greatest

Smallest

7. Write the cardinal number of:

F = {whole numbers from 8 to 14}

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

n(F) = 7

8. Solve the following:

(i) $2y - 5 = 11$

(ii) $5y - 3.5 = 10$

Ans (i) $\Rightarrow 2y = -11 + 5$

$\Rightarrow 2y = -6$

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

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

$\Rightarrow y = -3$

(ii) Ans - $\Rightarrow 5y = 10 + 3.5$

$\Rightarrow 5y = 13.5$

$\Rightarrow \frac{5y}{5} = \frac{13.5}{5}$

$\Rightarrow y = \frac{13.5}{5}$

$\Rightarrow y = 2.7$

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

Ans- Number of votes A get = 9,32,567
Number of votes B get = 9,00,235
(Here B<A)
Candidate A win the election by margin
= 9,32,567 - 9,00,235
= 32,332

10. Starting from the greatest 5-digit number, write the previous five numbers in descending order.

Ans- 99,999; 99,998; 99,997; 99,996; 99,995

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

Ans- 10,00,000; 10,00,001; 10,00,002; 10,00,003; 10,00,004

12. By re-arranging the given numbers, evaluate:
(i) 2×487×50
(ii) 25×444×4

Ans- (i) 2×50×487
= 100 × 487
= 48,700

(ii) 25×4×444
= 100 ×444
= 44,400

13. Evaluate using properties:

(i) 548×98

$= (500+40+8) \times 98$

$= 500 \times 98 + 40 \times 98 + 8 \times 98$

$= 49000 + 3920 + 784$

$= 53,704$

(ii) 924×997

$= (900+20+4) \times 997$

$= 900 \times 997 + 20 \times 997 + 4 \times 997$

$= 8,97,300 + 19,940 + 3,998$

$= 9,21,238$

(iii) 3002×723

$= (3000+2) \times 723$

$= 3000 \times 723 + 2 \times 723$

$= 21,69,000 + 1,446$

$= 21,70,446$

14. Add:

(i) 259 and 214

$$\begin{array}{r} 259 \\ +\ 214 \\ \hline 473 \end{array}$$

(ii) -528 and -243

$$\begin{array}{r} -528 \\ +\ -243 \\ \hline -771 \end{array}$$

(iii) -623 and 326

$$\begin{array}{r} 5\ 11\ 13 \\ 6\ 8\ 2\ 3 \\ -\ 326 \\ \hline 297 \end{array} = -297$$

Ans -297

15. Subtract:

(i) -123 from 453

= 453 - (-123)

= 453 + 123

= 576

(ii) -78 from -12

= -12 - (-78)

= -12 + 78

= 66

(iii) 329 from -124

= -124 - 329

= -453

(iv) -222 from 0

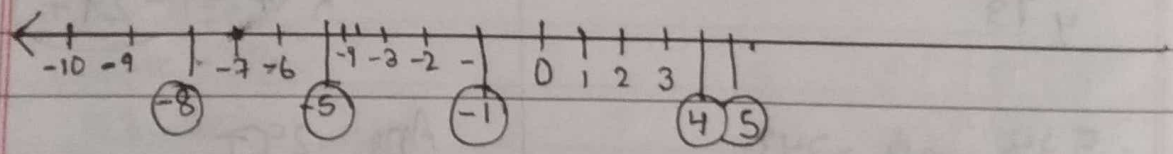
= 0 - (-222)

= 0 + 222

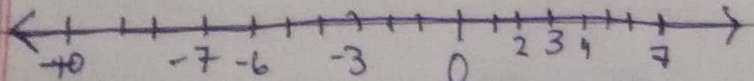
= 222

16. In each case, arrange the given integers in ascending order using a number line

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



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



17. Find the HCF of :

(i) 5 and 8

$5 = 1 \times 5$

$8 = 2 \times 2 \times 2$

HCF = 1

$5 \overline{)8} (1$
-5
$3 \overline{)5} (1$
-3
$2 \overline{)3} (1$
-2
$1 \overline{)2} (2$
-2
0

(ii) 24 and 49

$24 \overline{)49} (2$
-48
$1 \overline{)24} (24$
-24
0

HCF = 1

(iii) 40, 60 and 80

$40 \overline{)60} (1$
-40
$20 \overline{)40} (2$
-40
0

$20 \overline{)80} (4$
-80
0

(iv) 48, 84 and 88

$48 \overline{)84} (1$
-48
$36 \overline{)48} (1$
-36
$12 \overline{)36} (3$
-36
0

$12 \overline{)88} (7$
-84
$4 \overline{)12} (3$
-12
0

HCF = 4

(v) 12, 16, 28

$12 \overline{)16} (1$
-12
$4 \overline{)12} (3$
-12
0

$4 \overline{)28} (7$
-28
0

HCF = 4

18. The HCF and the LCM of two numbers are 50 and 300 respectively. If one of the numbers is 150, find the other one.

HCF = 50
LCM = 300
Product = 300 × 50
= 15,000

One number = 150
The other number = $\frac{\text{LCM} \times \text{HCF}}{\text{One Number}} = \frac{15,000}{150} = 100$

∴ The other number is 100.

19. The product of two numbers is 432 and their LCM is 72. Find their HCF.

Product of two numbers = 432
LCM = 72
HCF = $\frac{432}{72} = 6$

20. State the numeral coefficient of the following monomials:
(i) $5xy = 5$
(ii) $abc = 1$
(iii) $5pqr = 5$
(iv) $\frac{-2x}{y} = -2$

20. Write the degree of each of the following polynomial

(i) $x + x^2$

$x = 1$

$x^{(2)} = 2$

Ans - 2

(ii) $5x^2 - 7x + 2$

Ans - 2

(iii) $x^3 - x^8 + x^{10}$

Ans - 10

(iv) $1 - 100x^2$

Ans - 2

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

$= 2300000 + 23$

$= 23 \times (100000 + 1)$

$= 23 \times 100001$

23. Without making any actual division, show that each of the following numbers is divisible by 11.

(i) 11011

$= 11000 + 11$

$= 11 \times (1000 + 1)$

$= 11 \times 1001$

(ii) 110011

$= 110000 + 11$

$= 11 \times (10000 + 1)$

$= 11 \times 10001$

(iii) 1100011
= 11000000 + 11
= 11 × (1000000 + 1)
= 11 × 1000001

24. Without actual division, show that each of the following numbers is divisible by 8:

(i) 1608
= 1600 + 8
= 8 × (200 + 1)
= 8 × 201

(ii) 56,008
= 56,000 + 8
= 8 × (7000 + 1)
= 8 × 7001

(iii) 240008
= 240000 + 8
= 8 × (30,000 + 1)
= 8 × 30,001

25. Find which of the following numbers are divisible by 2:

(i) 352 - Yes
(ii) 523 - No
(iii) 496 - Yes
(iv) 649 - No

26. Find which of the following numbers are divisible by 10:

(i) 9990 - Yes

(ii) 0 - Yes

(iii) 847 - No

(iv) 8976 - No

Q5. Find which of the following numbers are divisible by 11:

(i) 5918

Sum of odd places from the right side = 8+9=17

Sum of even places from the right side = 1+5=6

The difference is = 11

Ans - Yes, it is divisible.

(ii) 68,717

= Sum of odd places from the right side = 7+7+6=20

Sum of even places from the right side = 1+8=9

The difference is = 11

Ans - yes, it is divisible

(iii) 3882

Sum of odd places = 2+8=10

Sum of even places = 8+3=11

Difference = 1

Ans - No, it is not divisible

(iv) 10,857

Sum of odd places = 7+8+1=16

Sum of even places = 5+0=5 (16-5=11)

Yes, it is divisible.

28. In each of the following numbers, replace M by the smallest number to make resulting number divisible by 3:

(i) 64M3

= 6+4+3

= 13 + M

= 13 + M = ___

= 13 + M = 15

= 13 + 2 = 15

∴ M = 2

(ii) 46M46

= 4+6+M+4+6+

= 10 + M + 20

= 20 + M = ___

= 20 + 1 = 21

∴ M = 1

(iii) 27M53

= 2+7+M+5+3

= 9 + M + 8

= 17 + M = ___

= 17 + 1 = 18

∴ M = 1

29. One pencil costs Rs 2 and one fountain pen costs Rs 15. What is the cost of x pencils and y fountain pens?

Ans- Cost of one pencil = Rs 2

Cost of ~~two~~ x pencils = 2 × x = 2x

Cost of one fountain = Rs. 15

Cost of y fountain pens = Rs $15 \times y = 15y$

Co.

∴ So, cost of x pencils and y fountains pens are $2x + 15y$

30. Think of a number. Multiply by 5. Add 6 to the result. Subtract y from this result. What is the result?

Let think that x is a number.

Here, x is multiplied by $5 = 5x$

Then add 6 to it $= 5x + 6$

After that, subtract $y = 5x + 6 - y$

Ans - So, the result is $5x + 6 - y$.

31. The number of rooms on the ground floor of a building is 12 less than the twice of the number of rooms on first floor. If the first floor has x rooms, how many rooms does the ground floor has?

Let's considers that m as the rooms on the ground floor

Here, number of rooms on the first floor $= x$

Here, it is given that the number of rooms on the ground floor of a building is 12 less than the twice of the number of rooms on first floor.

So, $x \times x = 2x$

Ans - So, the ground floor has $y = 2x - 12$ rooms.

32. One-fourth of a number add to four-seventh of it gives 135, Find the number.

Let required number = x

$$\frac{1}{4}x + \frac{2}{7}x = 135$$

$$= \frac{x \times 7 + 2x \times 4}{28} = 135$$

$$= \frac{7x + 8x}{28} = 135$$

$$= \frac{15x}{28} = 135$$

$$= x = \frac{135}{15} \times \frac{28}{15} = 9 \times 28 = 252$$

Ans- The number is 252.

33. A number is increased by 12 and the new number obtained is multiplied by 5. If the resulting number is 95, find the original number?

let require d number = x

$$= (x + 12) \times 5 = 95$$

$$= 5x + 60 = 95$$

$$= 5x = 95 - 60$$

$$= 5x = 35$$

$$= x = \frac{35}{5}$$

$$= x = 7$$

34. A number is increased by 24 and the new number obtained is divided by 3. If the resulting number is 18, find the original number.

Let required number = x

$= (x+26) \div 3 = 18$

$\therefore \frac{x+26}{3} = 18$

$= x + 26 = 18 \times 3$

$= x + 26 = 54$

$= x = 54 - 26$

$= x = 28$

35. {Negative natural numbers} and {50 the day of a month} - Equal

36. State, whether the following are Infinite or finite sets:

(i) {2, 4, 6, 8, ... 800} Finite

(ii) {....., -5, -4, -3, -2,} Infinite

(iii) {x : x is an integer between -60 and 60} Finite

(iv) {No. of electrical appliances working in your house} - Finite

(v) {x : x is a whole number greater than 20} - Infinite

37. For each statement, given below, write True or False:

(i) {..., -8, -4, 0, 4, 8} is a finite set. False

(ii) {-32, -28, -24, -20, ..., 0, 4, 8, 16} is an infinite set. False

(iii) {x : x is a natural number less than 1} is the empty set. True

(iv) {Whole numbers between 15 and 16} = {Natural numbers between 5 and 6} - True

(v) {Odd numbers divisible by 2} is the empty set. True

38. State, giving reasons, which of the following pair of set disjoint sets and which are overlapping sets:

(i) A = {Girls with ages below 15 years} and
B = {Girls with ages above 15 years}

Ans- They are disjoint because as no girl can be age below 15 and age above 15.

(ii) C = {Boys with ages above 20 years}
D = {Boys with ages above 27 years}

Ans- Overlapping sets because boys are above 27 years are also above 20 years.

(iii) A = {Natural numbers between 35 and 60} and
B = {Natural number between 50 and 80}

Ans- Overlapping sets: as natural numbers from 50 to 59 are common to both the sets.

(iv) P = {Students of class IX studying in I.C.S.E Board} and
Q = {Students of class IX}

Ans- Overlapping sets: as students of class IX studying in I.C.S.E board are common.

(v) A = {Natural numbers of multiples of 3 and less than 30} and B = {Natural numbers divisible by 4 and between 20 and 75}

Ans- Overlapping sets: as natural number 24 is common to both the sets

39. Write the cardinal number of each of the following sets.

(i) $A = \{0, 1, 2, 4\} = n(A) = 4$

(ii) $B = \{-3, -1, 1, 3, 5, 7\}$ $n(B) = 6$

(iii) $C = \{\} = n(C) = 0$

(iv) $D = \{3, 2, 2, 1, 3, 1, 2\}$ $n(D) = 3$

(v) $F = \{$ Natural numbers between 15 and 20$\} = n(F) = 4$

40. How many perpendicular bisectors are there for a line segment of length 12cm.

Ans. Only one

41. How many lines can pass through two points in a plane?

Ans. Only one line