9(c)

1) Find which of the following numbers are divisible by 2:

i) 352 : Yes, 352 is divisible by 2 as it has 2 in it unit place.
ii) 523 : No, 523 is not divisible by 2 as it has 3 in it unit place.
iii) 496 : Yes, 496 is divisible by 2 as it has 6 in it unit place which is divisible by 2
iv) 679 : No, 679 is not divisible by 2. as it has 9 in its unit place.

2) Find which of the following numbers is divisible by 4:
i) 222 : The last two no is not divisible by 4 so 222 is not divisible by 4.
ii) 532 : The last two, no 32 is divisible by 4 so, 532 is divisible by 4.
iii) 678 : The last two no 78 is not divisible by 4 so, 678 is not divisible by 4.
iv) 9392 : The last two no 92 is divisible by 4 so, 9392 is divisible by 4.
v) 9232 : The number form by last two digits is 32. As 32 is divisible by 4. So the number 9232 is also divisible by 4.

3) Find the which of the following numbers are divisible by 8:
i) 324 : so, 324 is not divisible by 8.
ii) 2536 : Yes, 536 is divisible by 8 so, 2536 is divisible by 8.
iii) 92760 : Yes, 760 is divisible by 8 so, 92760 is divisible by 8.
iv) 944320 : Yes, 320 is divisible by 8 so, 944320 is divisible by 8.

A) Find which of the following numbers are divisible by 3:

i) 221: After adding 2+2+1 we get 5 and 5 is not divisible by 3 so 221 is not divisible by 3.

ii) 543: After adding 5+4+3 we get 12 and it is divisible by 3 so 543 is divisible by 3.

iii) 28492: After adding 2+8+4+9+2 we get 25 and 25 is not divisible by 3. so 28492 is not divisible by 3.

iv) 92319: After adding 9+2+3+1+9 we get 27 and 27 is divisible by 3 so 92319 is divisible by 3.

B) Find which of the following numbers are divisible by 9:

i) 1332: After adding 1+3+3+2 we get 9 and 9 is divisible by 9 so, 1332 is divisible by 9.

ii) 53247: After adding 5+3+2+1+7 we get 21 and 21 is not divisible by 9 so, 53247 is not divisible by 9.

iii) 4968: After adding 4+9+6+8 we get 27 and 27 is divisible by 9. so, 4968 is divisible by 9.

iv) 200314: After adding 2+0+0+3+1+4 we get 10 and 10 is not divisible by 9 so, 200314 is not divisible by 9.

C) Find which of the following numbers are divisible by 6:

i) 324: 324 is divisible by 2 and 3 so it is divisible by 6.

ii) 2010: 2010 is divisible by 2 as well as 3 so it is divisible by 6.

iii) 33278: 33278 is divisible by 2 but not divisible by 3 so it is not divisible by 6.

iv) 15505: 15505 is not divisible by 2 as well as 3 so it is not divisible by 6 also.

7) Find which of the following numbers are divisible by 5.

i) 7080 = Yes it is divisible by 5.

ii) 66666 = No it is not divisible by 5 as it do not have 0 or 5 in its unit place.

iii) 7775 = Yes it is divisible by 5.

iv) 9207 = No it is not divisible by 5 as it do not have 0 or 5 in its unit place.

8) Find which of the following numbers are divisible by 10:

i) 9990 : Yes it is divisible by 10

ii) 0 : Yes 0 is divisible by 10.

iii) 847 : No 847 is not divisible by 10 as it do not end with 0 and it is not divisible by both 2 and 5.

iv) 8976 : No 8976 is not divisible by 10 as it do not end with 0 & it is not divisible by 5.

9) Which of the following numbers are divisible by 11?

i) 5918 :

Sum of its digits in even places from right side = 1 + 5 = 6

Sum of its digits in odd places from right side = 8 + 9 = 17

Difference of the two sums = 17 - 6 = 11

So, 5918 is divisible by 11.

(ii) 68,717 : Sum of its digit in odd places from right side : 7 + 7 + 6 = 20

Sum of its digit in even places from right side = 1 + 8 = 9

Difference = 20 - 9 = 11

So, 68,717 is divisible by 11.

iii) 3882 : Sum of its digit in odd place from the right side = 2+8 = 10
Sum of its digits in even place from right place = 8+3 = 11
Difference = 11 - 10 = 1
So, 3882 is not divisible by 11.

iv) 5013 : Sum of its digits in odd place from the right place = 3
Sum of its digits in even place = 5+1 = 6
Difference = 6 - 3 = 3
So, 5013 is not divisible by 11.

10) Find which of the following numbers are divisible by 15.
i) 960 : 960 is both divisible by 3 and 5 so 960 is divisible by 15.
ii) 8295 : 8295 is both divisible by 3 and 5 so 8295 is divisible by 15.
iii) 10243 : 10243 is not divisible by both 3 and 5 so 10243 is not divisible by 15.
iv) 5013 : 5013 is not divisible by both 3 and 5 so 5013 is not divisible by 15.

11) In each of the following numbers, replace M by the smallest whole number to make the resulting number divisible by 3.
i) 64M3 = 6+4+3 = 13 next multiple of 3 after 13 is 15
So, 15 - 13 = 2 . 2 is the digit. 6423
ii) 46M46 = 4+6+4+6 = 20 , next multiple is 21 after 20
So, 1 is the digit. 46146 is the number.
iii) 27M53 = 2+7+5+3 = 17 , next multiple is 18 after 17
So, 18 - 17 = 1 , is the digit.
or - 27153.

12) In each of the following numbers, replace M by the smallest whole number to make the resulting number divisible by 9.

i) 76M91 = 7+6+9+1 = 23
next multiple of 9 after 23 = 27
27 - 23 = 4
no = 76491.

ii) 77548M = 7+7+5+4+8 = 30
next multiple = 36
36 - 30 = 6
no = 775486

iii) 627M9 = 6+2+7+9 = 24
next multiple = 27
27 - 24 = 3
no = 62739

13) In each of the following numbers, replace M by the smallest whole number to make the resulting number divisible by 11.

i) 39M2 = 9+2 = 11,
= next multiple = = no = 8

ii) 3M422 =
Sum of all digits in odd places is
= 2+4+3 = 9
Sum of all digits in even places is
2+M
The number 3M422 will be divisible by 11 if
(2+M) - 9 = 0 or a multiple of 11
From this, it is clear that M is 7

~~(iii) 70975M : 9+5+7 = 21~~
~~= 7+0 = 7~~

(iii) 70975M

Sum of all the digits in odd places is
M+7+0 = M+7

Sum of all digits in even places is
5+9+7 = 21

70975M will be divisible by 11, if
~~21 - (M+7) = 0 or a multiple of 11~~
21 - (M+7) = 0 or a multiple of 11
21 - (M+7) = 11

Clearly, M = 3

(iv) 14M75

Sum of all digits in odd places = 5+1+M = 6
sum of all digits in even places = 7+4 = 11
14M75 will be divisible by 11 if
11 - (M+6) = 0 or a multiple of 0
11 - (5+6) = 0
11 - 11 = 0
clearly, M = 5 so, 14575 is the number.

14) State true or false.

i) If a number is divided by 4, it is divisible by 8. false
ii) If a number is a factor of 12 and 24, it is ~~a number~~ a factor of 48. True
iii) If a number is divisible by 18, it is divisible by 3 and 6. True
iv) If a divides both b and c completely, then a divides (i) a+b (ii) a-b also completely. True.

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