## PLAYING WITH NUMBERS

1. Write the following number in expanded form.
a. 62365
b. 756
c. 3002
d. 4050
2. Write the number corresponding to the following expanded forms
a. $300+20+3$.
b. $7000+40+5$
c. $1000+300+6$
d. $3000+700+1$
3. Which of the following numbers are divisible by 2 ?
a. 6745
b. 7654
c. 9033
d. 2080
4. Which of the following numbers are divisible by 3 ?
a. 1234
b. 6369
c. 1251
d. 2001
5. Which of the following numbers are divisible by 4 ?
a. 5344
b. 8764
c. 8895
d. 2038
6. Which of the following numbers are divisible by 5 ?
a. 1375
b. 9866
c. 5490
d. 2345
7. Which of the following numbers are divisible by 10 ?
a. 1230
b. 3709
c. 4105
d. 4150
8. Which of the following numbers are divisible by 8 ?
a. 12340
b. 12600
c. 54128
d. 1232
9. Which of the following numbers are divisible by 11 ?
a. 12121
b. 121212
c. 11011
d. 10109
10. Which of the following numbers are divisible by 9 ?
a. 1234
b. 6369
c. 1251
d. 2001
11. Construct a $4 \times 4$ magic square using 16 consecutive numbers starting from 10 . What is its magic sum?
12. Construct a $3 \times 3$ magic square using 9 consecutive nubers starting from 14 . What is its magic sum?
13. Find the values of a such that the number 12345a is a multiple of 3 .
14. find the value of $a$ and $b$ such that $4 a 3 b$ is divisible by 9 and 10 .
15. Find all four digit numbers of the form 34 pq which are divisible by 4 and 5 .
16. Without actual calculations, find the quotient when the difference between 82 and 28 is divided by the following numbers.
a) 3
b) 6
c) 9
d) 18
17. Without actual calculations, find the quotient when the difference between 925 and 529 is divided by the following numbers.
a) 11
b) 9
c) 33
d) 99
18. Without actual calculations, find the quotient when the sum 628,286 and 862 is divided by the following numbers.
a) 16
b) 37
c) 111
d) 3
19. Without actual calculations, find the quotient when the sum $519,591,915,951,159$ and 195 is divided by the following numbers.
a) 37
b) 74
c) 111
d) 222
20. Complete the following table using the letters Y or N

| Dumbers |  | 3 | 4 | 5 | 8 | 9 | 10 | 11 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 16384 | $\mathbf{Y}$ | $\mathbf{N}$ |  |  |  |  |  |  |
| 10215 |  |  |  |  |  |  |  |  |
| 14520 |  |  |  |  |  |  |  |  |
| 23112 |  |  |  |  |  |  |  |  |

(Note Y indicates the number 16384 is divisible by 2 and N indicates the number 16384 is not divisible by 3.)
2. Match the following expressions to the product having the same values

|  | Sum |  | Product |
| ---: | :--- | ---: | :--- |
| (a) | $423-324$ | i. | $2 \times 3 \times 37 \times 9$ |
| (b) | $42-24$ | ii. | $111 \times 9$ |
| (c) | $423+234+342$ | iii. | $3 \times 3 \times 11$ |
| (d) | $423+432+234+243+342$ <br> +324 | iv. | $2 \times 9$ |

3. State true or false
a) A number divisible by 3 is also divisible by 9 .
b) A number divisible by 8 is also divisible by 4 .
c) A number divisible by 4 is also divisible by 2 .
d) A number divisible by 5 is also divisible by 10 .
4. Without actual calculations find the quotient when the sum of 76 and 67 is divided by 11..
5. Find the values of $a$ and $b$ such that $a b 6 x b=3 a 80$.
6. Construct a $3 \times 3$ magic square using 9 consecutive numbers starting from 1 .
