MATHS

BOOKS - RS AGGARWAL MATHS (HINGLISH)

PLAYING WITH NUMBERS

Solved Examples

1. In a 2-digit number, the units digit is four times the tens digit and the sum of the digits

is 10. Find the number.

2. दो अंकों की एक संख्या के अंकों का योग 8 है। उसके अंकों को पलटने पर प्राप्त संख्या मूल संख्या से 18 कम है। संख्या ज्ञात कीजिए।

3. In a 3-digit, the hundreds digit is twice the tens digit while the units digit is thrice the

tens digit. Also, the sum of its digits is 18. Find the number.

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4. Replace A,B,C,D by suitable numerals in the following

$$\begin{array}{r} 6AB5 \\ +D58C \\ \hline 9351 \end{array}$$

A. $3, 8, 9, 5$

B. $2, 7, 8, 9$

C. $6, 6, 7, 2$

D. $2, 4, 6, 7$

Answer: C

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5. Find the values of A, B and C in the following

$$\begin{array}{r} 35A \\ -CB8 \\ \hline 183 \end{array}$$

A. $1, 6, 1$

B. $2, 5, 7$

C. $3, 7, 8$

D. $6, 9, 6$

Answer: A

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6. Find the values of A and B in the following

$$\begin{array}{r} 4A \\ \times\ 6 \\ \hline 2B4 \end{array}$$

A. 4,6

B. 6,4

C. 4,4

D. 6,6

Answer: A

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7. Find the values of A,B,C , when

$$\begin{array}{r} AB \\ \times\ BA \\ \hline BCB \end{array}$$

A. $4, 8, 3$

B. $1, 2, 5$

C. $2, 7, 9$

D. $3, 8, 7$

Answer: B

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8. Find the values of A,B,C in the following

$$
\begin{array}{r}
5C \\
9\overline{)4AB} \\
-45 \\
\hline
3B \\
-36 \\
\hline
0
\end{array}
$$

A. 4,8,6

B. 4,6,8

C. 8,6,4

D. 8,4,6

Answer: C

9. Find the values of A,B,C,D,E,F,G in the following

$$
\begin{array}{r}
AB\overline{)4CDE(1FG} \\
-28 \\
\hline
15D \\
-140 \\
\hline
16E \\
-16E \\
\hline
\times
\end{array}
$$

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Examples

1. Each of the numbers 60,72,84,96,108 is divisible by 2.

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2. Test the divisibility of the following numbers by 3.

(i) 18657 (ii) 967458 (iii) 263705

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3. Find all possible values of x for which 4-digit number $754x$ is divisible by 3. Also, find each such number.

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4. Test the divisibility of each of the following numbers by 9.

(i) 27981 (ii) 869517 (iii) 937546

(iv) 336899

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5. Find all possible values of y for which 4-digit number 51y3 is divisible by 9. Also, find each such number.

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6. Give an example of a number which is divisible by 3 but not divisible by 9.

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7. Each of the numbers 67930 and 89715 is divisible by 5. None of the numbers 146, 278,513,684,341,482,507 is divisible by 5.

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8. Each of the following 90,120,230,350,470, etc. is divisible by 10.

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9. Test the divisibility of each of the following numbers is 4.

(i) 36692 (ii) 41328 (iii) 10874 (iv) 154326

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10. Test the divisibility of each of the following numbers is 8.

(i) 49104 (ii) 570312 (iii) 685218 (iv) 739514

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11. Give an example of a number which is divisible by 4 but not divisible by 8.

A. 32

B. 40

C. 44

D. 48

Answer: C

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12. Test the divisibility of each of the following numbers is 7.

(i) 672 (ii) 5341 (iii) 1067 (iv) 7305

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13. Test the divisibility of each of the following numbers is 11.

(i) 863478 (ii) 4832718 (iii) 5436708

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Exercise 5 A

1. Two units digit of a two-digit number is 3 and seven times the sum of the digits is the number itself. Find the number.

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2. In a two-digit number, the digit at the units place is double the digit in the tens place. The number exceeds the sum of its digits by 18. Find the number.

A. 20

B. 36

C. 24

D. 48

Answer: C

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3. A two-digit number is 3 more than 4 times the sum of its digits. If 18 is added to the number, the digits are reversed. Find the number.

A. 34

B. 35

C. 37

D. 38

Answer: B

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4. The sum of the digits of a two-digit number is 15. The number obtained by interchanging its digits exceeds the given number is 9. Find the original number.

A. 78

B. 87

C. 88

D. 77

Answer: A

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5. The difference between is 2-digit number and the number obtained by interchanging its digits is 63. What is the difference between the digits of the number?

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6. In a 3 -digit number,the tens digit is thrice the units digit and the hundreds digit is four times the units digit.Also,the sum of its digits is 16. Find the number

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Exercise 5 B

1. Test the divisibility of each of the following numbers by 2:

(i) 9 (ii) 570 (iii) 285 (iv) 2398 (v) 79532 (vi) 13576 (vii) 46821 (viii) 84663 (ix) 66669

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2. Test the divisibility of each of the following numbers by :

(i) 95 (ii) 470 (iii) 1056 (iv) 2735 (v) 55053 (vi) 35790 (vi) 98765 (vii) 42658 (ix) 77990

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3. Test the divisibility of each of the following numbers by :

(i) 205 (ii) 90 (iii) 1174 (iv) 57930 (v) 60005

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4. Test the divisibility of each of the following numbers by 3 :

(i) 83 (ii) 378 (iii) 474 (iv) 1693 (v) 20345 (vi) 67035 (vii) 591282 (viii) 903164 (ix) 100002

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5. Test the divisibility of each of the following numbers by 9 :

(i) 327 (ii) 7524 (iii) 32022 (iv) 64302 (v) 89361

(vi) 14799 (vii) 66888 (viii) 30006 (ix) 33333

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6. Test the divisibility of each of the following numbers by :

(i) 134 (ii) 618 (iii) 3928 (iv) 50175 (v) 39392 (vi) 56794 (vii) 86102 (viii) 66666 (ix) 99918 (x) 77736

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7. Test the divisibility of each of the following numbers by 8 :

(i) 6132 (ii) 7304 (iii) 59321 (iv) 66664 (v) 44444 (vi) 154360 (vii) 998818 (viii) 265472 (ix) 7350162

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8. Test the divisibility of each of the following numbers by 11 :

(i) 22222 (ii) 444444 (iii) 379654 (iv) 1057982 (v) 6543207 (vi) 818532 (vii) 900163 (viii) 7531622

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9. Test the divisibility of each of the following numbers by 7 :

(i) 693 (ii) 7896 (iii) 3467 (iv) 12873 (v) 65436 (vi) 54636 (vii) 98175 (viii) 88777

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10. Find all possible values of x for which the number 7x3 is divisible by 3. Also , find each such number.


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11. Find all possible values of y for which the number 53y1 is divisible by 3. Also , find each such number.


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12. Find the value of x for which the number x806 is divisible by 9. Also find the number.

13. Find the value of z for which the number 471z8 is divisible by 9. Also find the number.

14. Give five examples of numbers, each one of which is divisble by 3 but not divisible by 9.

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15. Give five examples of numbers, each one of which is divisble by 4 but not divisible by 8.

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Exercise 5 C

1. Replace A,B and C by suitable numerals.

$$\begin{array}{r} 5A \\ +87 \\ \hline CB3 \end{array}$$

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2. Replace A,B and C by suitable numerals.

$$\begin{array}{r} 4CB6 \\ +369A \\ \hline 8173 \end{array}$$

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3. Replace A,B and C by suitable numerals.

$$\begin{array}{r} A \\ +A \\ A \\ \hline BA \end{array}$$

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4. Replace A,B and C by suitable numerals.

$$\begin{array}{r} 6A \\ -AB \\ \hline 37 \end{array}$$

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5. Replace A,B and C by suitable numerals.

$$\begin{array}{r} CB5 \\ -\,28A \\ \hline 259 \end{array}$$

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6. Replace A,B and C by suitable numerals.

$$\begin{array}{r} AB \\ \times\ 3 \\ \hline CAB \end{array}$$

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7. Replace A,B and C by suitable numerals.

$$\begin{array}{r} AB \\ \times\ BA \\ \hline (B+1)CB \end{array}$$

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8. Replace A,B and C by suitable numerals.

$$\begin{array}{l} 6)\,5\,A\,B\,(9\,C \\ \quad -5\,4 \\ \hline \qquad 3\,B \\ \quad -\ 3\,6 \\ \hline \qquad\ \times \\ \hline \end{array}$$

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9. Find two numbers whose product is a 1-digit number and the sum is a 2-digit number.

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10. Find three whole numbers whose product and sum are equal.

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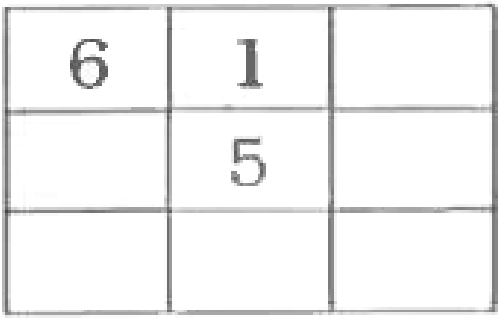
11. Complete the magic square given below, so that the sum of the number in each row or in each column or along each diagonal is 15



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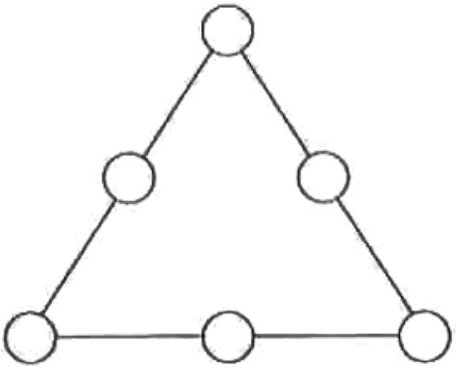
12. Fill in the numbers from 1 to 6 without repition, so that each side of the triangle adds



up to 12.

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13. Fibonacci numbers Take 10 numbers as shown below:

a,b (a+b), (a+2b), (2a+3b), (3a+5b), (5a+8b), (8a+13b), (13a+21b), and (21a+34b). Sum of all these numbers =11(5a+8b)

$= 11 \times 7\text{th number}$. Taking a =8, b=13, write

10 Fibonacci numbers and verify that sum of all these numbers $= 11 \times 7\text{th number}$.

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14. Complete the magic square

	14		0
8		6	11
4			7
	2	1	12

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Exercise 5 D

1. If $5x6$ is three digit number exactly divisible by 3, then the least value of x is

A. 0

B. 1

C. 2

D. 3

Answer: B

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2. If 64y8 is exactly divisible by 3, then the least value of y is

A. 0

B. 1

C. 2

D. 3

Answer: A

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3. If 7×8 is exactly divisible by 9, then the least value of x is

A. 0

B. 2

C. 3

D. 5

Answer: C

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4. If 37y4 is exactly divisible by 9, then the least value of y is

A. 2

B. 3

C. 1

D. 4

Answer: D

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5. If 4xy7 is exactly divisible by 3, then the least value of (x+y) is

A. 1

B. 4

C. 5

D. 7

Answer: A

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6. If x7y5 is exactly divisible by 3, then the least value of (x+y) is

A. 6

B. 0

C. 4

D. 3

Answer: D

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7. If x4y5z is exactly divisible by 9, then the least value of (x+y+z) is

A. 3

B. 6

C. 9

D. 0

Answer: C

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8. If 1A2B5 is exactly divisible by 9, then the least value of (A+B) is

A. 0

B. 1

C. 2

D. 10

Answer: B

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9. If the 4-digit number x27y is exactly divisible by 9, then the least value of (x+y) is

A. 0

B. 3

C. 6

D. 9

Answer: D

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Test Paper 5

1. Find all possible values of x for which the 4-digit number 320x is divisible by 3. Also, find the numbers.

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2. Find all possible values of x for which the 4-digit number 64y3 is divisible by 9. Also, find the numbers.

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3. The sum of the digits of a 2-digits number is 6. The number obtained by interchangind its digits is 18 more than the original number. Find the original number.

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4. Which of the following numbers are divisible by 9?

(i) 524618 (ii) 7345845 (iii) 8987148

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5. Replace A,B,C by suitable numberals:

$$\begin{array}{r} 57A \\ -CB8 \\ \hline 293 \end{array}$$

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6. Replace A,B,C by suitable numberals:

$$
\begin{array}{r}
\overline{7\,)\,6\,A\,B\,(\,8\,C} \\
-\,5\,6 \\
\hline
\quad 6\;\;B \\
-\,6\;\;3 \\
\hline
\quad\times
\end{array}
$$

A. $A = 1, B = 3, C = 9$

B. $A = 2, B = 3, C = 9$

C. $A = 1, B = 6, C = 9$

D. $A = 1, B = 6, C = 8$

Answer: B

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7. Find the values of A,B,C when $\begin{array}{r} AB \\ \times\ BA \\ \hline BCB \end{array}$

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8. If 7x8 is exactly divisible by 3, then the least value of x is

A. 3

B. 0

C. 6

D. 9

Answer: B

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9. If 6x5 is exactly divisible by 9, then the least value of x is

A. 1

B. 4

C. 7

D. 0

Answer: C

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10. If x48y is exactly divisible by 9, then the least value of (x+y) is

A. 4

B. 0

C. 6

D. 7

Answer: C

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11. If 486*7 is exactly divisible by 9, then the least value of * is

A. 0

B. 1

C. 3

D. 2

Answer: D

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