

CRYPT ARITHMETIC REFERENCE



A cryptarithm is a mathematical puzzle in which the digits have been replaced by letters. In these puzzles; each letter stands for a different digit. 0 is never the first digit of any number. These puzzles may have multiple answers.

$$A+A+A = BA$$

Step 1: Look at the letters carefully, "A" can not be 1,2,3. Why?

Step 2: Because three times the sum of the digit is a single digit number but the answer is a two-digit number "BA."

$1+1+1=3$; $2+2+2=6$; $3+3+3=9$.

Step 3: So "A" should be one of these digits 4,5,6,7,8, or 9. Why?

Step 4: $4+4+4=12$; $5+5+5=15$; $6+6+6=18$; $7+7+7=21$; $8+8+8=24$; $9+9+9=27$.

Step 5: Do you know the solution now?

Step 6: The solution is - A =5 & B = 1.

$$SUN + FUN = SWIM$$

Step 1: Look at the letters carefully - "N" & "U" can not be 0. Why?

Step 2: Because the sum of N+N & U+U is a different digit.

Step 3: "N" & "U" can be any digit between 1 to 9.

Step 4: Check why this is not possible N =1 and U =6 then $1+1=2$ and $6+6=12$? Why?

Step 5: So make combinations with "N" & "U"; assume N = 2 and U = 3

Step 6: Check "S" & "F" - the sum of single digits makes a two digit number.

Step 7: Assume S=1 & F =9.

Step 8: Can you find the solution now? There can be more than one solution also. S=1; F=9; U= 3; N=2; W=0; I= 6 & M=4.

$$SUN + FUN = SWIM \quad \underline{\hspace{2cm}} \quad 132+932= 1064$$



CRYPT ARITHMETIC

Directions:

1. Each letter represents a different single digit. Zero is never the first digit of any number.
2. If a letter is used more than once, it represents the same digit. The below problems can have more than one solution.
3. One has been completed for you.
4. Refer to the reference sheet to know more about Crypt Arithmetic.

$AB + CB$
Solution : $A = 2 ; B = 6 ; C = 3$
26+36

BA
62

$AB + AB$
Solution : $A = _ ; B = _ ; C = _$

CA

$AB + BA$
Solution : $A = _ ; B = _ ; C = _$

CC

$AB + CB$
Solution : $A = _ ; B = _ ; C = _ ; D = _$

AAD

$AB + CB$
Solution : $A = _ ; B = _ ; C = _ ; D = _$

ADD



CRYPT ARITHMETIC

Directions:

1. Each letter represents a different single digit. Zero is never the first digit of any number.
2. If a letter is used more than once, it represents the same digit. The below problems have unique solutions.
3. One has been completed for you.
4. Refer to the reference sheet to know more about Crypt Arithmetic.

HOP + HOP

Solution : H=6; O=0; P=4; F=1; R=2; G=8

604+604

FROG

1208

ON + ON

UP

I + WE

Solution :

FUN

I + DO

Solution :

IT

SUN + FUN (hint : F=8; U=6)

Solution :

SWIM



CRYPT ARITHMETIC

Directions:

1. Each letter represents a different single digit. Zero is never the first digit of any number.
2. If a letter is used more than once, it represents the same digit. The below problems can have more than one solution.
3. One has been completed for you.
4. Refer to the reference sheet to know more about Crypt Arithmetic.

$A \times A$
Solution : A=6; B=3
6×6

BA
36

$A \times AB$
Solution:

CA

$A \times BB$
Solution :

CAD

$AA \times BB$
Solution :

DADC

$ABC \times 9$
Solution :

BDA



CRYPT ARITHMETIC

Directions:

1. Make crypt arithmetic puzzles by yourself along with solutions in the below boxes. Ask your family members or friends to solve them. Follow the rules to make these puzzles.

Rule 1: Each letter represents a different single digit. Zero is never the first digit of any number.

Rule 2: If a letter is used more than once, it means the same digit. The below problems can have more than one solution.

2. Refer to the reference sheet to know more about Crypt Arithmetic.

Solution :

Solution :

Solution :

Solution :

Solution :
