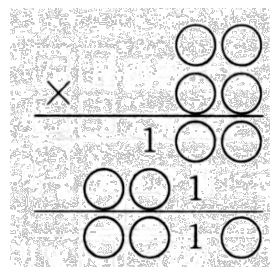


## GEP PRACTICE TESTS — NUMBER PUZZLES

- 【1】 There are only 3 numbers 1 in the incomplete formula., but other numbers aren't 1, so what's the product of the formula?



- 【2】 In the right formula, the same symbols represent the same numbers, and different symbols represent different numbers. According to the formula, we can figure out:  $\square + \bigcirc + \triangle + \star =$  \_\_\_\_\_.

$$\begin{array}{rcccc}
 & \triangle & \square & \square & \bigcirc \\
 + & \bigcirc & \square & \square & \triangle \\
 \hline
 & \square & \square & \star & \star
 \end{array}$$

- 【3】 In the right vertical formula, the same letters represent the same numbers, and different letters represent different numbers. So four-digit number  $\overline{tavs} =$  \_\_\_\_\_?

$$\begin{array}{rcccc}
 & s & t & v & a \\
 + & & v & t & s & t \\
 \hline
 & t & t & v & t & t
 \end{array}$$



**【4】** The following picture is a right addition formula. The same letters represent the same numbers, and different letters represent different numbers. Given that  $\overline{BAD}$  isn't the multiple of 3, and  $\overline{GOOD}$  isn't the multiple of 8. So what's the value of the four-digit number that  $\overline{ABGD}$  represents?

$$\begin{array}{r}
 \phantom{+} \phantom{00} B \phantom{00} A \phantom{00} D \\
 + \phantom{00} B \phantom{00} A \phantom{00} D \\
 \hline
 G \phantom{00} O \phantom{00} O \phantom{00} D
 \end{array}$$

**【5】** As is shown in the picture, in the addition formula, eight letters “ $\overline{QHFZLBDX}$ ” represent certain number in 0~9 respectively. Different letters represent different numbers. If I want to make the formula right, what's the maximum value of four-digit number “ $\overline{QHFZ}$ ”?

$$\begin{array}{r}
 \phantom{+} \phantom{00} 2 \phantom{00} 0 \phantom{00} 0 \phantom{00} 9 \\
 \phantom{+} \phantom{00} Q \phantom{00} H \phantom{00} F \phantom{00} Z \\
 + \phantom{00} Q \phantom{00} H \phantom{00} L \phantom{00} B \\
 \hline
 1 \phantom{00} Q \phantom{00} H \phantom{00} D \phantom{00} X
 \end{array}$$

**【6】** Put 1~9 into the checks of the right vertical formula to make the formula right, (every number can only be used once). So what's the minimum value of the four-digit addend?

$$\begin{array}{r}
 \phantom{+} 1 \phantom{00} \square \phantom{00} \square \phantom{00} \square \\
 + \phantom{00} \phantom{00} \square \phantom{00} \square \phantom{00} \square \\
 \phantom{+} \phantom{00} \phantom{00} \square \phantom{00} \square \phantom{00} \square \\
 \hline
 2 \phantom{00} 0 \phantom{00} 0 \phantom{00} 8
 \end{array}$$



【7】 Put 2, 3, 4, 5, 6, 7 into the formula's checks respectively to make the formula right

:  $2 \times \square\square\square = \square\square\square$ , and the product of the formula can be exactly divided by 13. The product is \_\_\_\_\_.

【8】 In the right multiplication formula, A, B and C represent a different number respectively, and every check represents a number that isn't equal to 0. What number do A, B and C represent respectively?

				<i>A</i>	<i>B</i>	<i>C</i>
×				<i>A</i>	<i>B</i>	<i>C</i>
			□	□	□	9
		□	□	□	4	
	□	□	□	1		
				□	□	□
				□	□	□

【9】 The following formula (1) is a incomplete multiplication vertical formula, and  $\square \neq 2$ . The product of the formula is \_\_\_\_\_.

				□	□
×				□	□
			□	□	□
		□	□	□	
	2	2	□		
	□	□	□	□	□

(1)



**【10】** In the right formula, A represents the same number. Fill in the  $\square$  with suitable numbers to make the formula complete. The difference of two multipliers (large number minus small number) is \_\_\_\_\_.

$$\begin{array}{r}
 \square A \\
 \times \quad \square \square \\
 \hline
 \square \square \square \\
 \square \square \square \\
 \hline
 1 \quad A \quad A \quad 1
 \end{array}$$

**【11】** As is shown in the right picture, the multiplication formula is composed of electronic numbers 0~9. But some numbers are blurred. Recover the electronic numbers in the right picture and change it into horizontal formula: \_\_\_\_\_.

$$\begin{array}{r}
 \begin{array}{ccccc}
 \square & 2 & 3 & 4 & 5 \\
 \square & \square & \square & \square & \square \\
 \hline
 6 & \square & 8 & 9 & \square
 \end{array}
 &
 \begin{array}{r}
 \square \square \\
 \square \square \\
 \times \quad \square \\
 \hline
 \square \square \square \\
 \square \square \square
 \end{array}
 \end{array}$$



【12】 Put 10 smallest composite numbers into the 10 blanks of the table, and we must satisfy the following conditions:

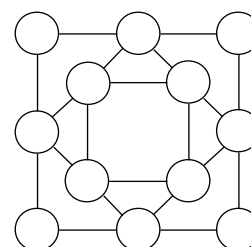
- (1) the numbers that we fill in can be divided exactly by the first number of its row;
- (2) every number of the last line is larger than the number which is above them.

So, the minimum sum of the five numbers in the last line is \_\_\_\_\_.

2	3	4	5	6

【13】 As is shown in the picture, three big, middle and small squares make 8 triangles. Now put 2, 4, 6, 8 into the four vertexes of big square; Put 2, 4, 6, 8 into the four vertexes of middle square; Finally, put 2, 4, 6, 8 into the four vertexes of small square.

1. Can you make the sum of all the numbers in the 8 triangles' vertexes equal?
2. Can you make the sum of the numbers in the 8 triangles' vertexes all different?



【14】 Fill in 12 natural numbers 1~12 to the checks of the right picture respectively. Every number is only used once, and make every formula right.

$$\begin{array}{ccccccc}
 ( & \square & + & \square & ) \div & \square & = 2 \\
 & + & & - & & \div & \\
 \square & - & \square & - & \square & = & 0 \\
 & - & & - & & - & \\
 \square & - & \square & \times & \square & = & 0 \\
 & - & & + & & \div & \\
 \square & + & \square & \div & \square & = & 8 \\
 \parallel & & \parallel & & \parallel & & \\
 1 & & 2 & & 6 & & 
 \end{array}$$



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