## RULES OF THE GAME D CODE

**D Code** is a game that merges logic and math. It can be played solo or cooperatively.



#### **STORY**

Strange messages are coming from space, and your mission is to decode them. You have 8 dice to accomplish this.

### CONTENT

- 96 challenges printed on 48 double-sided cards.
- 4 colored and numbered dice called the colored dice.
- 4 white dice with operation symbols: addition, subtraction, multiplication, and division. These are called *the white dice*.
- Rulebook.
- Solutions booklet.

## **GOAL OF THE GAME**

There are question marks on each challenge card.

The player must place a die on each of these signs so that:

- 1. All the equalities shown on the challenge card are true.
- 2. All the logical clues in the section at the bottom of the challenge card are respected.

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## THE CHALLENGES

The 96 challenges are grouped into 4 levels of 24 challenges each. The first level is accessible to 7-year-old children. The last level is demanding, even for adults.

The challenge cards are divided into two sections: calculations in the upper section and logical clues in the lower section.

The colored dice must be placed on the large squares and the white dice on the white circles.

Equalities placed on a horizontal line are read from left to right, and those aligned vertically are read from top to bottom. Challenges 44 to 48 are the only ones to use equalities aligned diagonally. The calculation must then be carried out from the top left to the bottom right.

#### SOLUTIONS

Each challenge card has a **unique** solution presented in the solution booklet. If your solution does not match the one in the booklet, it is incorrect. Review the calculations and logical clues on the challenge card carefully.

#### **EXAMPLE OF A CHALLENGE CARD**

Here is an example of a challenge card:

- The horizontal calculation is a multiplication with a result of 30.
- The vertical calculation is a subtraction with a result of 2.
- There are two logical clues in the lower section of the challenge card. The full set of logical clues is explained further below.

#### Important note

The placement of the colored dice must respect two conditions:

- 1. The numbers must validate the calculations.
- 2. The dice of the indicated color must be placed in the correct positions.





Here are two answers to evaluate:

This answer is correct. The calculations are accurate, and all the logical clues are respected. The reasoning to arrive at the solution is detailed in the example at the end of the rules



This answer is incorrect. The calculations are accurate, but the first logical clue is not respected. The reasoning is explained in the example at the end of the rules.

## PLAYING

Take a challenge card and the necessary dice. Solve the challenge by placing the dice appropriately in the required locations. <u>The logical clues are explained in the next section.</u>

- For challenges 1 to 24, take the red die, the blue die, and one white die. The other dice remain in the box.
- For challenges 25 to 43, take the red die, the blue die, the green die, and two white dice. The other dice remain in the box.
- For challenges 44 to 48, take the red die, the blue die, the green die, and three white dice. The other dice remain in the box.
- For challenges 49 to 53, take all four colored dice and three white dice.
- For challenges 54 to 96, use all eight dice.

## LOGICAL CLUES

- The colored squares show the color of the die that goes in that location. If the square is black, it is up to you to determine the color of the die.
- The green circle with a number means that this number must be used at least once in this challenge. For example, the symbol 2 implies that the number 2 must be used on at least one die.

The red circle with a crossed-out number means that this number must not appear on any die in this challenge. For example, the symbol (a) implies that the number 4 must not appear on any die.

This symbol indicates the equality of the expressions on each side. Thus, = implies that the number on the blue die is the same as that on the red die.

This symbol means that what is on the pointed side is smaller than what is on the open side. Thus, > implies that the number on the red die is greater than that on the blue die.

 $\neq$  This symbol means that what is on the left of the symbol must be different from what is on the right. Thus,  $\rightleftharpoons \neq \bigcirc$  implies that the number on the red die is different from that on the yellow die

This symbol means that all 4 operations must be used in this challenge.

#### Examples of clues appearing on some challenge cards

Challenge 18: > 4 means that the number on the blue die is greater than 4.

Challenge 21 < < 6 implies that the number on the red die is less than that on the blue die, and both numbers are less than 6.

Challenge 30: > = means that the number on the red die is equal to that on the green die, but less than that on the blue die.

Challenge 31: > > implies that the number on the blue die is greater than that on the red die, and the number on the red die is greater than that on the green die.

Challenge 73:  $\Rightarrow \Rightarrow = - \rightarrow$  means that the number on the green die divided by that on the blue die is equal to that on the red die minus that on the vellow die.

# EXAMPLE OF SOLVING A CHALLENGE

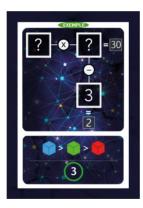
The challenge to solve:



The only way to get 30 with our dice is to do  $6 \times 5$  or  $5 \times 6$ . So, the operation on the horizontal line is therefore a multiplication:



Next, we must use the number 3 on at least one die. The two dice on the horizontal line are 5 and 6 or 6 and 5. The only die left is the one at the bottom, so it must display the number 3:



Since the bottom die is 3, the one above it must be 5 to satisfy the equality 5 - 3 = 2. So, the two dice at the top are 6 on the left and 5 on the right:



The numbers are placed, and now we need to determine the colors. The first logical clue implies that the number on the blue die is the largest (so 6), and that on the red die is the smallest (so 3). The number on the green die is between the other two (so 5).

The solution to this challenge card is:



#### **VERIFICATION**

- The equalities  $6 \times 5 = 30$  et 5 3 = 2 are true.
- The order of the numbers in the first logical clue is respected: 6 (blue die) is greater than 5 (green die), which is greater than 3 (red die).
- The second logical clue is respected because the number 3 is used on a die.

This solution is unique. Contact us if you find another one. If you are the first to report it to us, you will win a free game. After all, those who don't believe in miracles are not realistic!

#### **CREDITS**

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