INSTRUCTIONS FOR
SINGLE/DOUBLE DIGITS
VARIABLES EDITIONS

#38958 S/D DIGITS VARIABLES (48 cards)
### #38978 S/D DIGITS VARIABLES (96 cards)

24 GAME

VARIABLES

VARIABLES cards are printed on both sides, each with two different sets of three numbers. All cards are worth the same point value. All 9's are "filled in" in red.

HOW TO PLAY—Cards have two wheels. Each wheel has three numbers with one number "missing."

OBJECT is to find a "variable number" (any whole number from 1 through 9) which, when used with the other numbers in each wheel, can make 24 on BOTH WHEELS.

You can add, subtract, multiply and divide. You must use all numbers on a wheel, including the variable number, but use each only once.

EXAMPLE
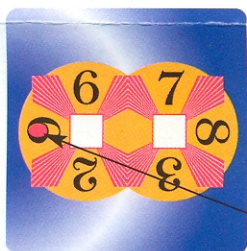
A variable number can be 5.

Left wheel.

6	÷	2	=	3
3	x	5	=	15
15	+	9	=	24

Right wheel.

8	–	5	=	3
3	x	7	=	21
3	+	21	=	24

All 9's are filled in red.

INCORRECT SOLUTIONS

A variable number can be 4 (see left wheel).

4	÷	4	=	1
2	–	1	=	1
3	+	1	=	4
4	x	6	=	24

Incorrect: The number 4 was used twice. Use each number only once.

2	+	4	=	6
6	+	6	=	12
6	÷	3	=	2
12	x	2	=	24

Incorrect: The number 6 was used twice. You can use the result of an operation only once, as well.

3	x	4	=	12
12	x	2	=	24

Incorrect: Only 3 numbers were used. You must use all 4 numbers.

How to Play with Two or More Players

1. Any number of players can play. Count off 12 to 24 cards from the deck. Put cards in center of table. All players are playing at the same time, for the same top card.

2. Win cards by being the first to find a variable number (1 through 9) that can make 24 on both wheels.

3. To win a card by being the first to touch the card, state a variable number and then give the correct solution. Once you take your card, the next card is in play.

For tournament style play, you must announce a variable number within 3 seconds of touching the card. For each wheel, your final solution (all three steps) must be completed within 15 seconds.

4. The winner is the player with the most cards after all cards are claimed.

When you make a false claim by touching the card, but can't quickly state a variable number and give a solution, you lose your right to win that card. The card is returned to the deck to be played later.

When players can't find a solution: Every card has at least one variable number that can make 24 on both wheels...most cards have more than one variable number that can work. If a card stumps all players, that card can be put aside.

Solve Multiple Cards for Increased Challenge

For more challenge, place multiple Variables cards side by side and find a variable number that can solve <u>ALL</u> the wheels.

Example
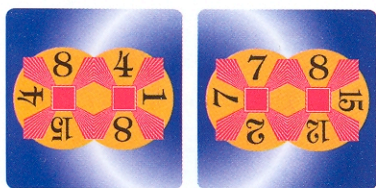
A variable number can be **5**.

Left Card.	Left wheel.		Right wheel.	
	$15 + 5 = 20$		$5 + 1 = 6$	
	$8 - 4 = 4$		$8 - 4 = 4$	
	$20 + 4 = 24$		$6 \times 4 = 24$	
Right Card.	Left wheel.		Right wheel.	
	$2 \times 5 = 10$		$5 + 15 = 20$	
	$10 + 7 = 17$		$12 - 8 = 4$	
	$17 + 7 = 24$		$20 + 4 = 24$	

THE SECRET IS TO LOOK FOR PATTERNS

Mathematics is a science and language of patterns. Look for patterns to make 24 and you will excel at the 24® game—and at mathematics. The most common patterns are 3 x 8, 4 x 6 and 2 x 12. Other patterns include 15 + 9, 18 + 6 and 21 + 3.

PATTERNS THAT MAKE THE TARGET NUMBER 24 ON VARIABLES CARDS

6	x	4	12	+	12	23	+	1	34	−	10
8	x	3	13	+	11	24	+	0	35	−	11
12	x	2	14	+	10	25	−	1	36	−	12
24	x	1	15	+	9	26	−	2	39	−	15
24	÷	1	16	+	8	27	−	3	40	−	16
48	÷	2	17	+	7	28	−	4	42	−	18
72	÷	3	18	+	6	29	−	5	44	−	20
96	÷	4	19	+	5	30	−	6	45	−	21
120	÷	5	20	+	4	31	−	7	46	−	22
144	÷	6	21	+	3	32	−	8	48	−	24
192	÷	8	22	+	2	33	−	9			

HOW TO FIND MULTIPLE VARIABLE NUMBERS that can solve a Variables card is shown in the example below.

One of the most common patterns to make 24 is 4 x 6. Look at the left wheel of this Variables card. Notice that there is a 4 and 6 on this card. If we make a 1 from the remaining 2 and the missing "variable number" we will have a solution, since 1 x 24 = 24. From this analysis, we know that the variable number can be either a 1, 2 or 3.

2	−	1	=	1		2	÷	2	=	1		3	−	2	=	1
1	x	4	=	4		1	x	4	=	4		1	x	4	=	4
4	x	6	=	24		4	x	6	=	24		4	x	6	=	24

Using this same approach on the right wheel with a 3 x 8 pattern, we see that a variable number of 2 or 3 can make 24 on both wheels. Learn to analyze a Variables card in this way and solving multiple Variables cards will become faster and easier.

Suntex international inc.

3311 Fox Hill Road, Easton, PA 18045
Phone: 610-253-5255 • Fax: 610-258-2180
Email: math24@aol.com • Web site: www.24game.com