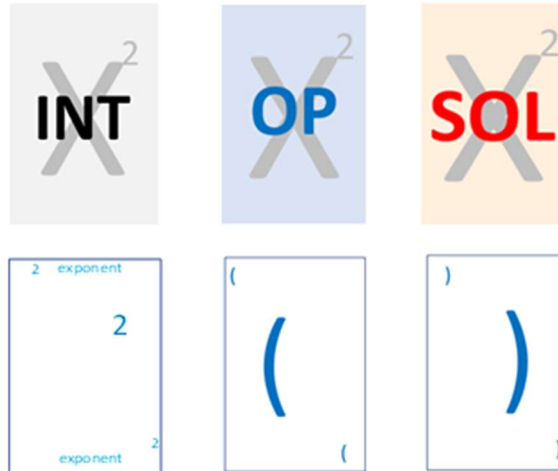




## X-Squared Basic Card Game Instructions

# X squared



### The COMPLETE Order of Operations Card Game

The X-Squared game deck enables limitless possibilities for math card games. **X-Squared Basic** is a family of card games that are easy to learn and play and provide hours of enjoyment and educational learning.

The game deck includes 104 total cards. There are 40 Integer cards:



Figure 1. Integer Cards



There are 20 Operator cards. Note: a Wild Operator card is included because many of the equations that are formed while playing the games require more than one of a particular operator (e.g. two +’s or two X’s). The Wild card can be used to apply any of the four operators.

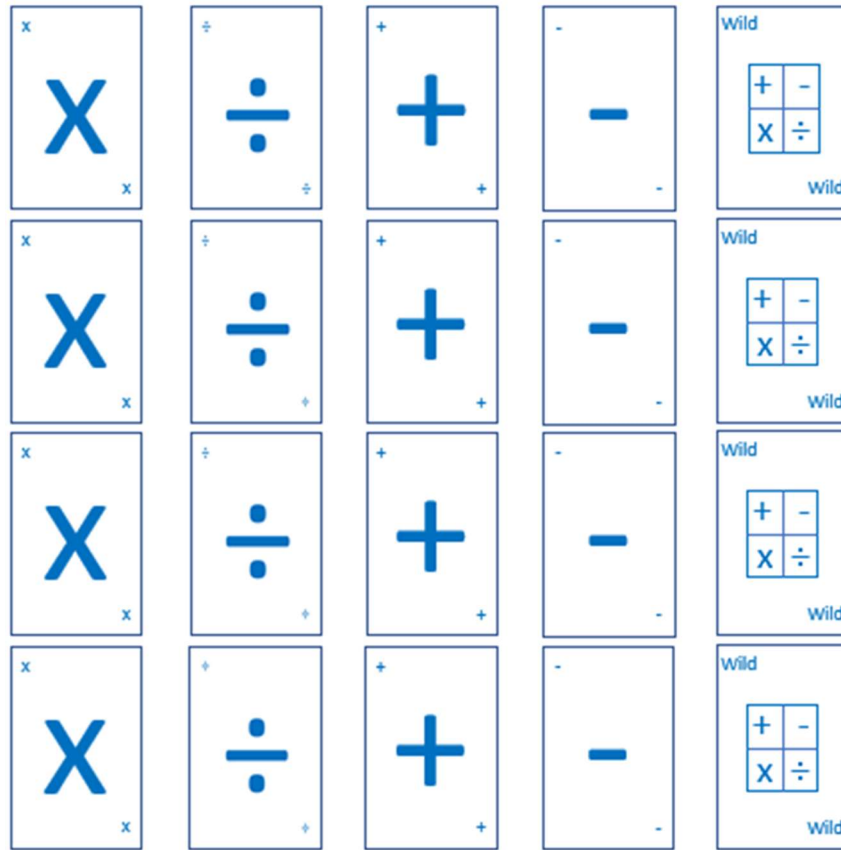


Figure 2. Operator Cards

There are 8 Inside and 4 Outside Parenthesis cards. These cards are transparent to overlay Integer cards:

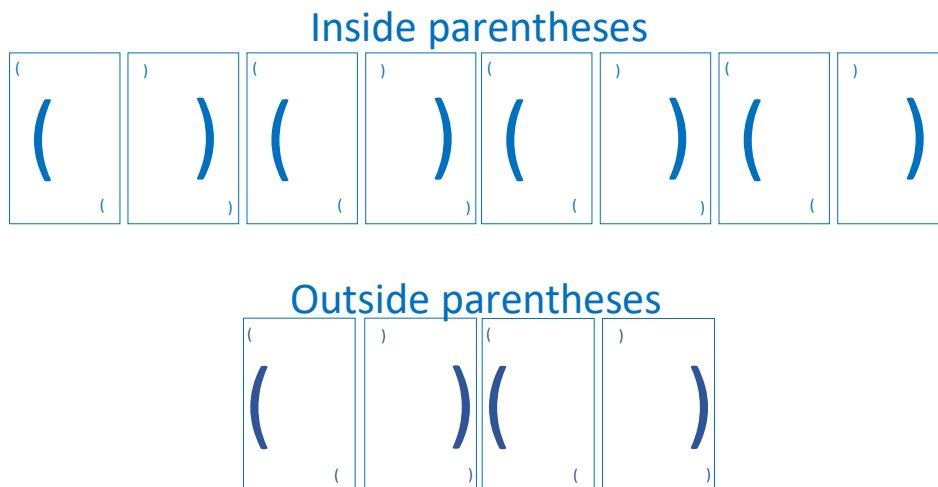


Figure 3. Parentheses Cards



There are 8 Exponent cards. Three types of exponent cards are required. The first exponent card may be applied to an Integer. The second type is applied to expressions with the Inside Parentheses. The third type is applied to expressions with either the Inside Parentheses or Outside Parentheses. The Exponent cards are also transparent to overlay Integer cards.

Exponent ( $x^2$ ) 2 Exponent	Exponent ( $x^2$ ) 2 Exponent	Exponent ( $x^2$ ) 2 Exponent	Exponent ( $x^2$ ) 2 Exponent	Exponent ( $x^2$ ) 2 Exponent	Exponent ( $x^2$ ) 2 Exponent	Exponent ( $(x)^2$ ) 2 Exponent	Exponent ( $(x)^2$ ) 2 Exponent
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Figure 4. Exponent Cards

There are 24 Solution cards. Each Solution card is a two-digit number. They include the smallest, largest, all perfect squares and all multiples of 5.

10	15	16	20	25	30	35	36
40	45	49	50	55	60	64	65
70	75	80	81	85	90	95	99

Figure 5. Solution Cards



### X-Squared Basic Card Games

Each of the card games described in these instructions uses a similar setup. Refer to Figure 6. Each player is provided with a set of operator cards, a set of parentheses and an exponent card. They also hold one of each of the integer cards, 0 through 9. One card is selected from the Solution card deck. There are two levels of games. Levels 3 and 4 can support 2 to 4 players.

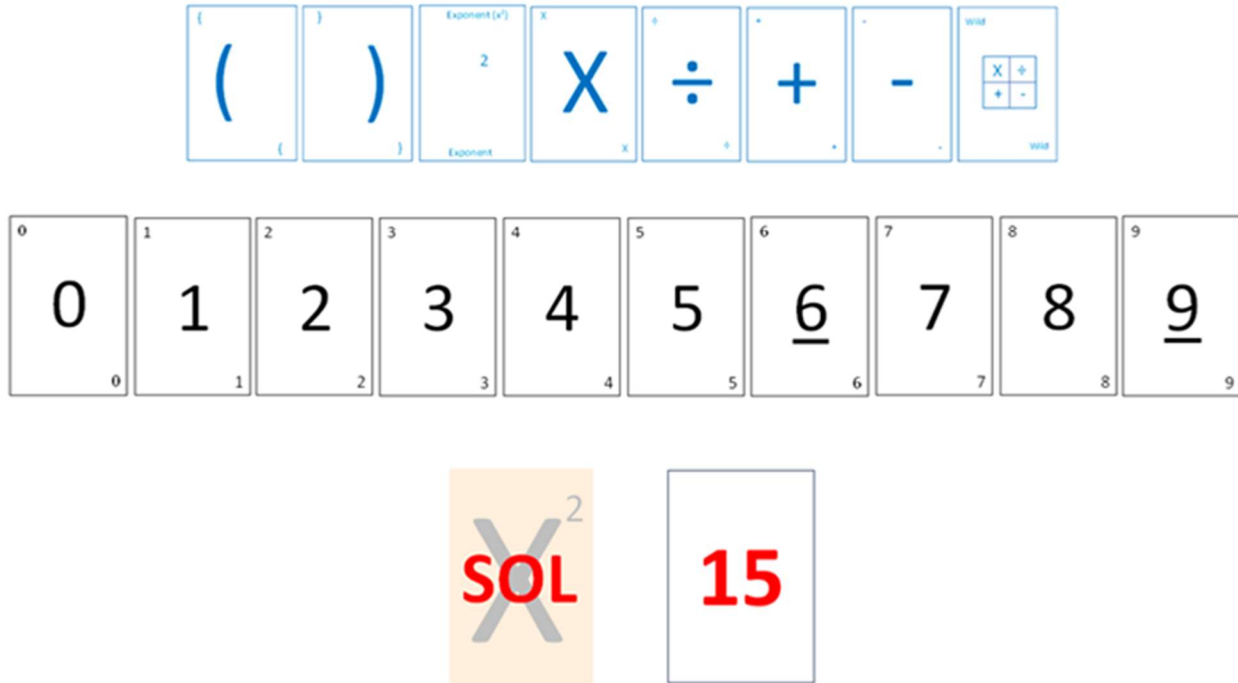


Figure 6. X-Squared Tutorial Setup

#### Level 3 – No Exponent (Remove the solution card 95 from the deck because it is not possible here)

The dealer selects a random solution card and turns it over. Players use the cards available to them to produce an equation equal to the solution card. In this game players must use 3 integer cards and 2 operator cards. The parentheses are optional and the exponent card is not allowed. An example equation for the solution card in Figure 6 is shown below in Figure 7. The player who is first to create a correct equation gets to retain the solution card for the round and holds it until the end of the game.

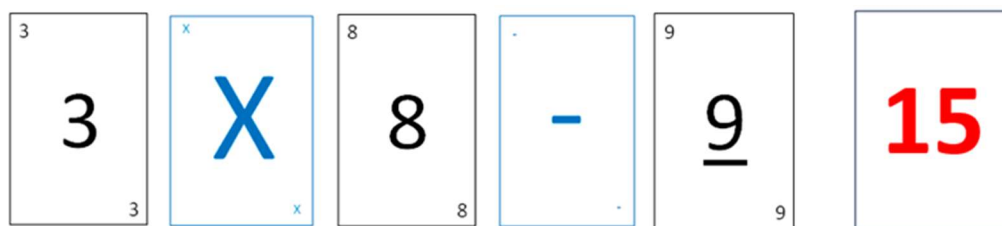


Figure 7. Equation for 3 Integer Cards with 15 Solution Card



Select another solution card and follow the same process. For instance, Figure 8 shows the card 80.

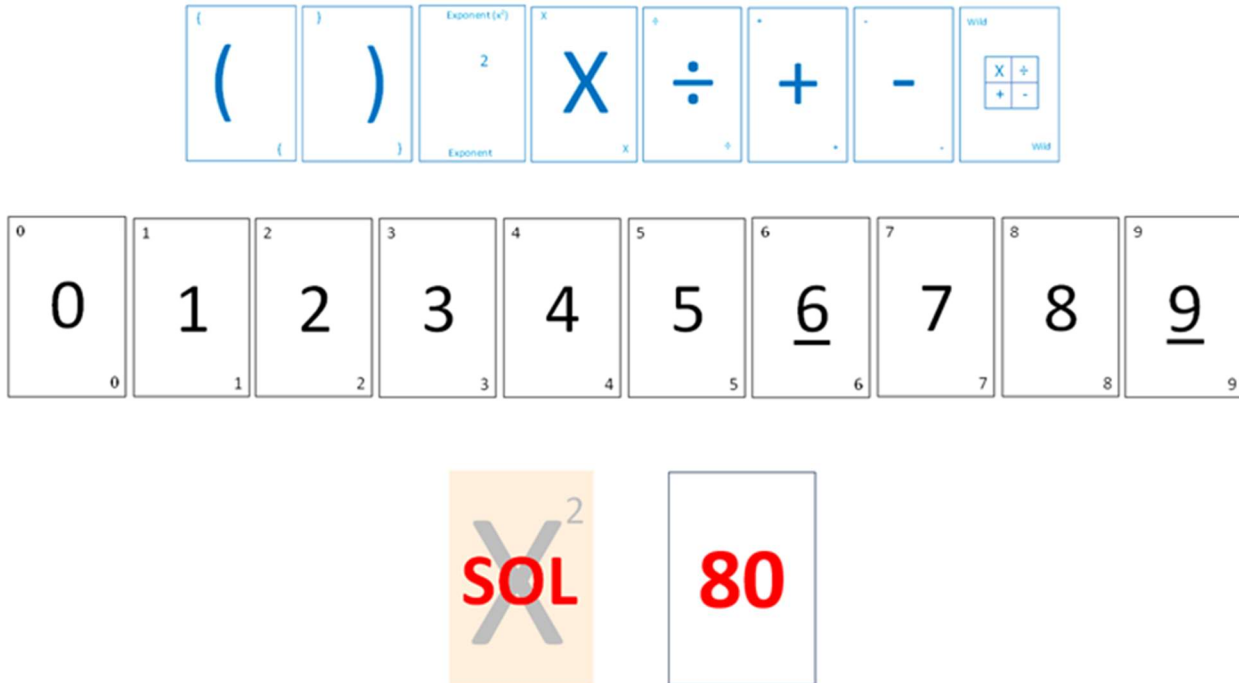


Figure 8. Tutorial Setup with 80 Solution Card

An example of a correct equation for the solution of 80 is shown in Figure 9.

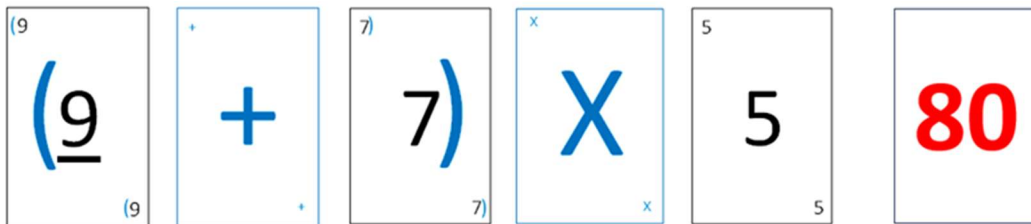


Figure 9. Equation for 3 Integer Cards with 80 Solution Card

Play continues until all<sup>1</sup> of the 23 solution cards are exhausted. When the solution cards are used up the player who has accumulated the most solution cards is the winner of the game.

<sup>1</sup> Players may decide to use a selected number of solution cards (e.g., 10) instead of using all 23.



### Level 3 – With Exponent

In this version players must use 3 integer cards, but this time they MUST also use an exponent card in creating an equation equal to the solution card. There are two exponent cards provided: one operates on an integer and the other operates on an expression. Refer to Figure 10. In this exercise players MUST use one and only one of the two exponent cards.

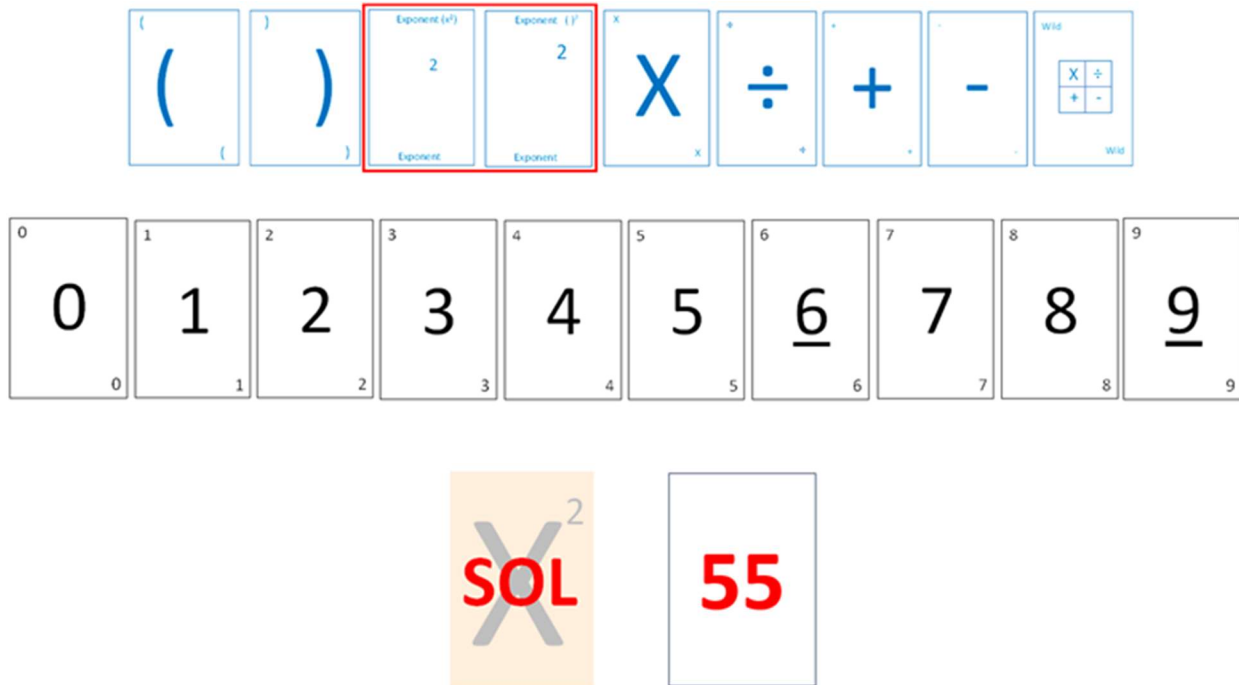


Figure 10. Level 3 with Exponent with 55 Solution Card

Once again players work to be the first to produce a correct equation applying the rules above. Two example equations for the solution of 55 using an exponent card are shown in Figure 11.

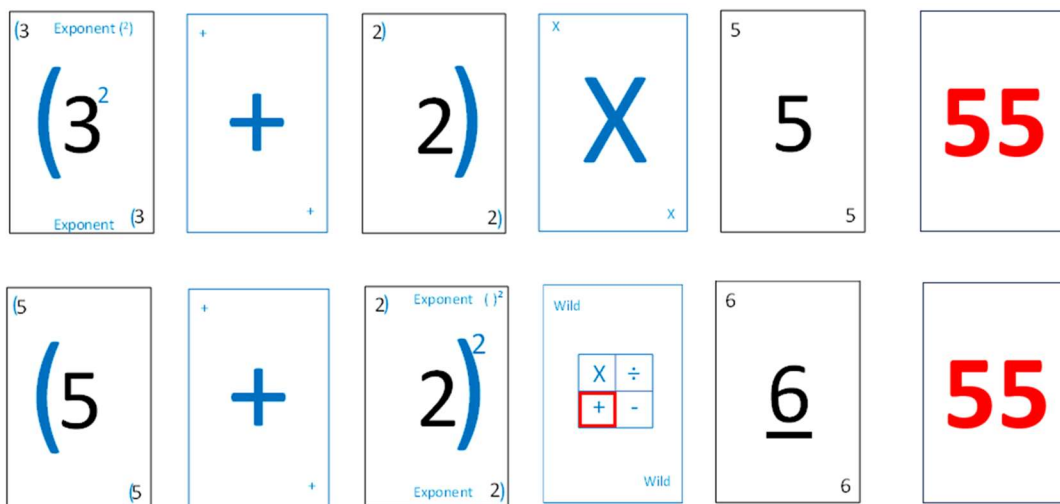


Figure 11. Equations for 3 Integer Cards with 55 Solution Card and Exponents



This exercise is illustrated one more time using the number 64 as the solution, as shown in Figure 12.

Figure 12. Level 3 with Exponent with 64 Solution Card

Two example equations for the solution of 64 using an exponent card are shown in Figure 13.

Figure 13. Equations for 3 Integer Cards with 64 Solution Card and Exponents

Continue play until all of the solution cards are exhausted. The player with the most solution cards at the end of the game is the winner.



### Level 4 – No Exponent

In this game players use 4 integer cards and 3 operator cards. The exponent card is excluded.

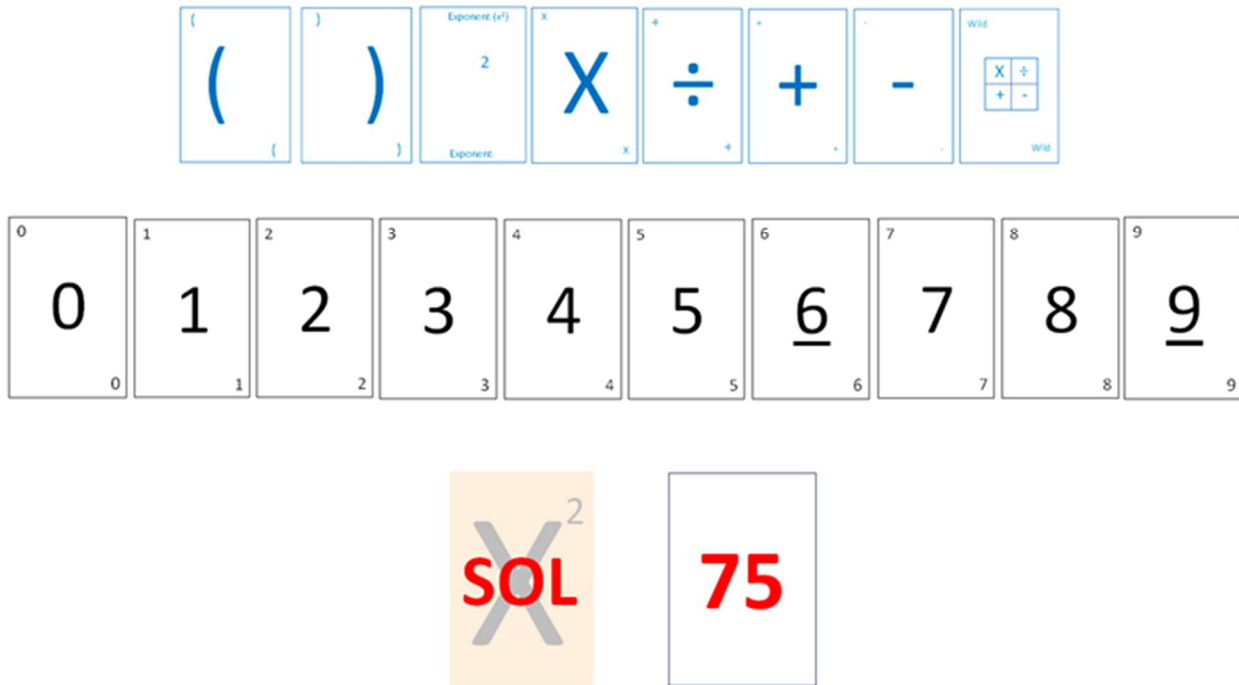


Figure 14. Setup for Level 4 with no Exponent, Solution Card 75

Two example equations using the 4 integer cards are shown in Figure 15.

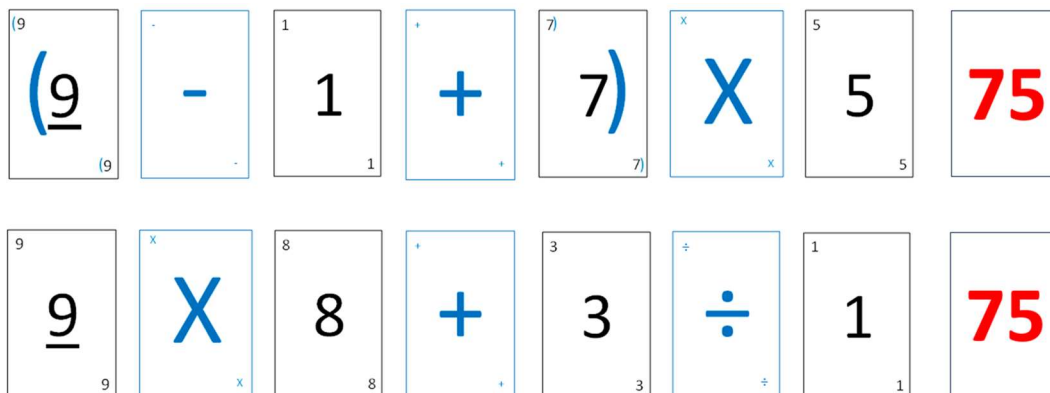
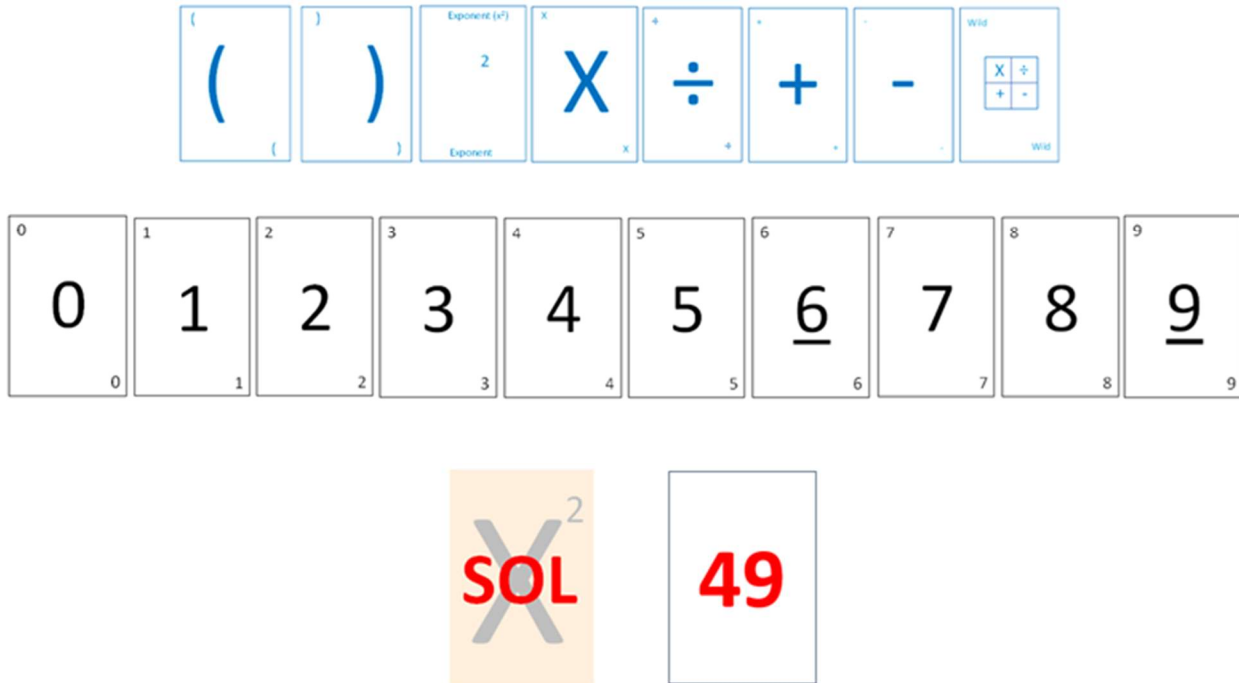


Figure 15. Equations for 4 Integer Cards with 75 Solution Card and No Exponent



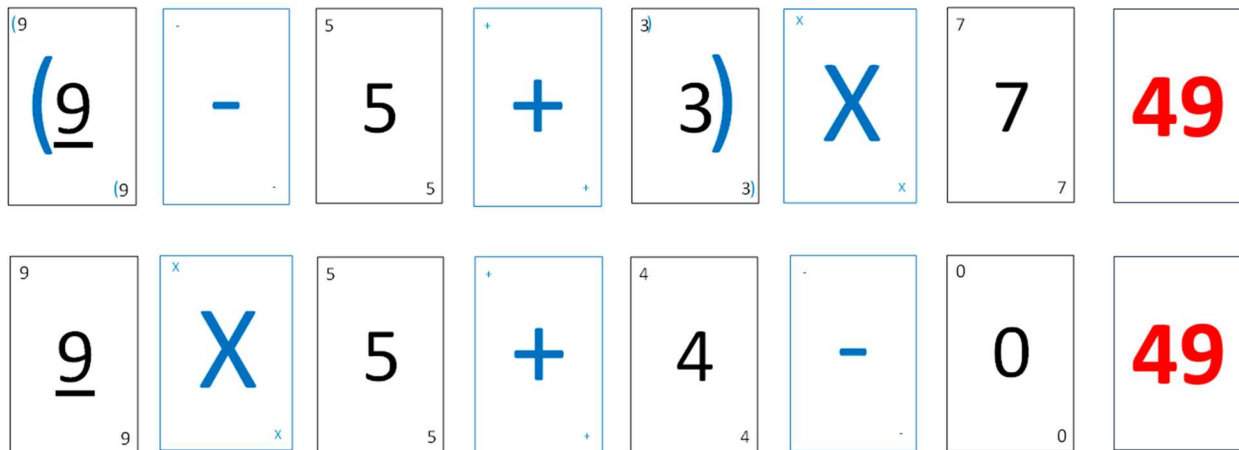


Below is one more exercise with four integer cards and no exponent card. See Figure 16.



**Figure 16. Setup with 49 Solution Card, Use 4 Integer Cards w/o Exponent**

Two example equations using the 4 integer cards are shown in Figure 17.



**Figure 17. Equations for 4 Integer Cards with 49 Solution Card and No Exponent**

Continue play until all solution cards are used up. Player who collects the most solution cards is the winner.



### Level 4 – With Exponent

In this game players use 4 integer cards and also MUST use an exponent card as shown in Figure 18.

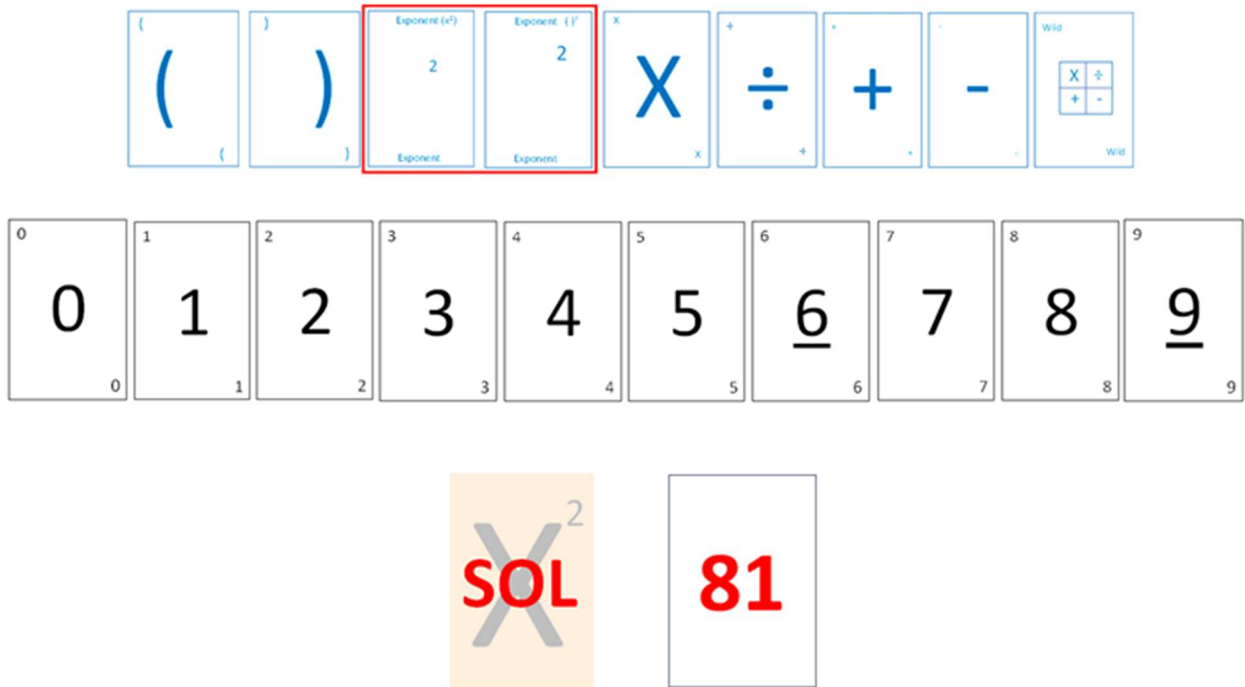


Figure 18. Setup with 81 Solution Card, Use 4 Integer Cards AND Exponent

Two example equations using the 4 integer cards and an exponent are shown in Figure 19.

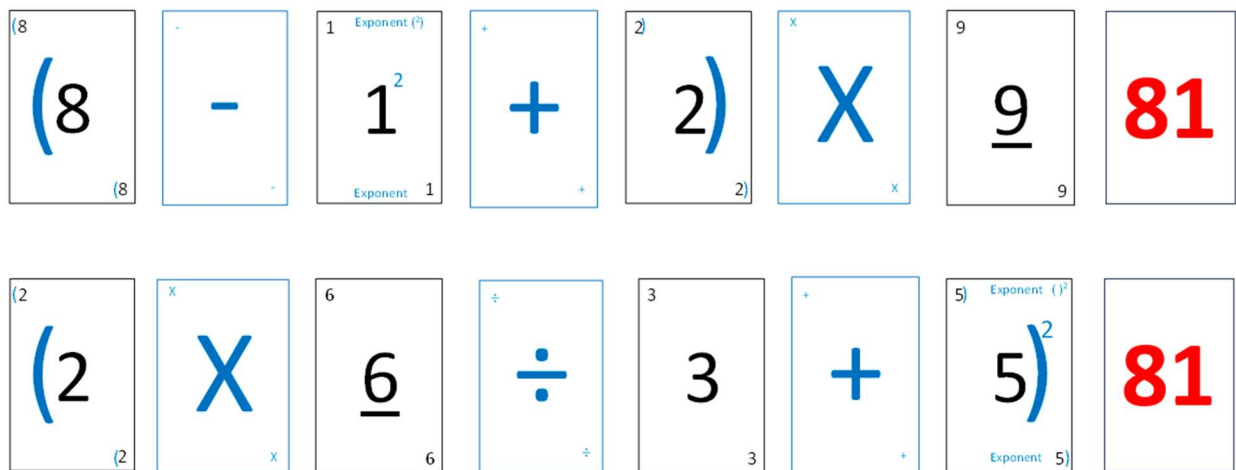
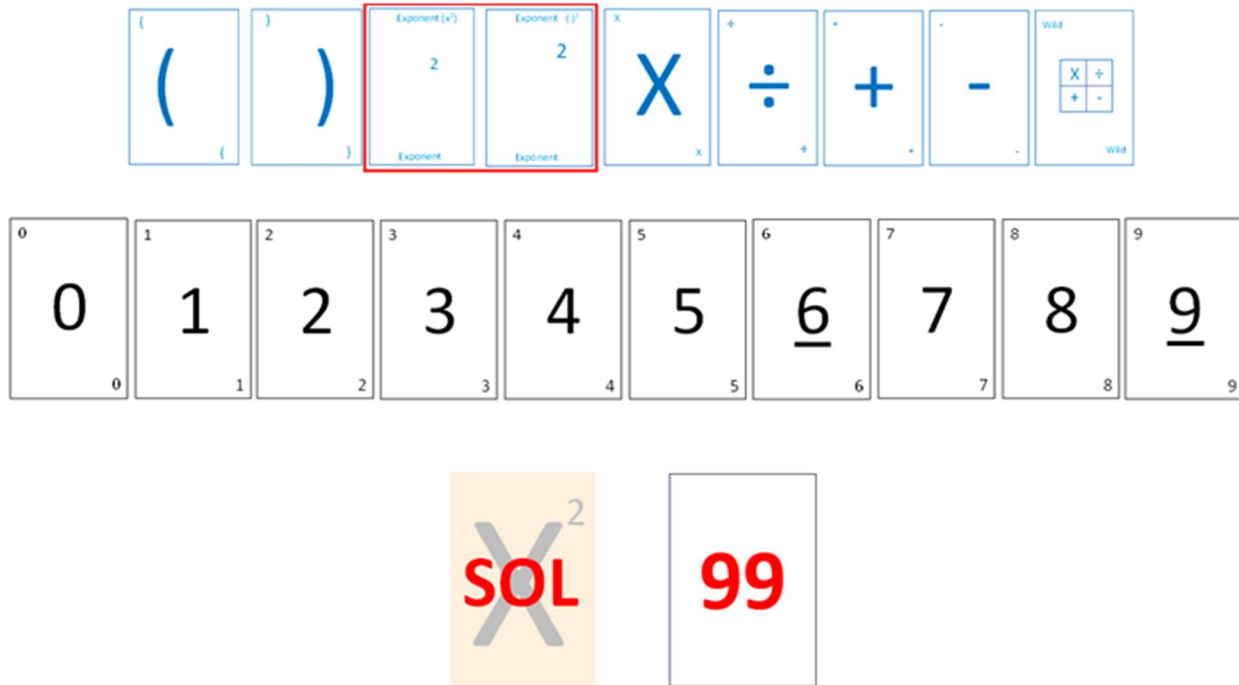


Figure 19. Equations for 4 Integer Cards with 81 Solution Card and Including Exponent

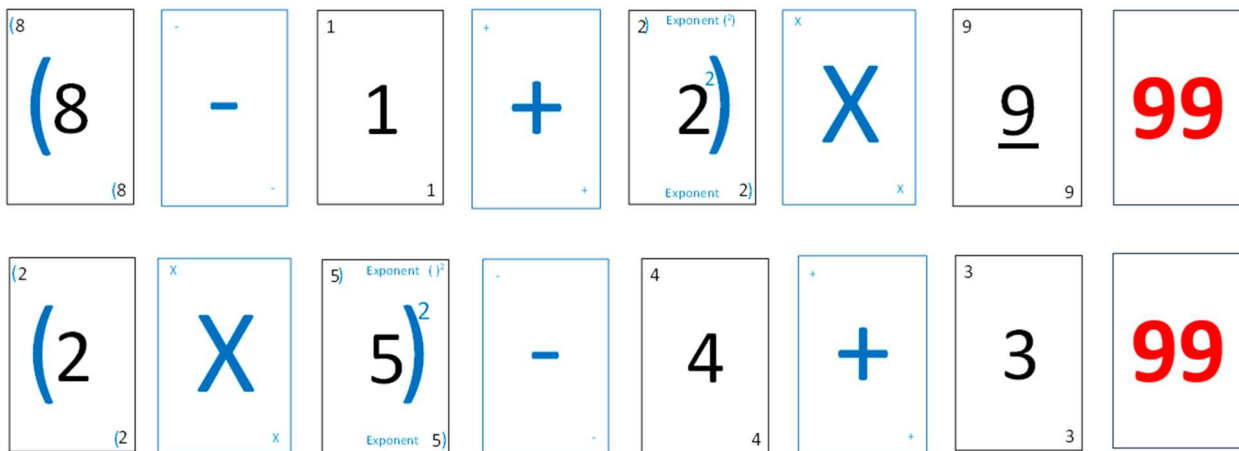


Here is one more exercise with the four integer cards and the exponent. Refer to Figure 20.



**Figure 20. Setup with 81 Solution Card, Use 4 Integer Cards AND Exponent**

Two example equations using the 4 integer cards and an exponent are shown in Figure 21.



**Figure 21. Equations for 4 Integer Cards with 99 Solution Card and Including Exponent**

Continue play until all solution cards are used up. At the end of the game the player with the most cards is the winner.