X-Squared Card Game Tutorial

The X-Squared card deck is a revolutionary tool for mathematical learning and entertainment. By following this tutorial, within 1 hour or less people will see a noticeable improvement in math skills. The tutorial will be easier to follow if you have a physical X-Squared card deck available to use.

In order to become familiar with X-Squared card deck we suggest that new players follow this tutorial. Upon completing it a player should have a good understanding of how to create equations using the building blocks of parentheses, exponent, multiplication, division, addition and subtraction (PEMDAS).

Start by placing the operator cards and a set of integer cards on a surface as shown in Figure 1. Put the stack of solution cards down and select one randomly from the deck, like the 15 shown below.

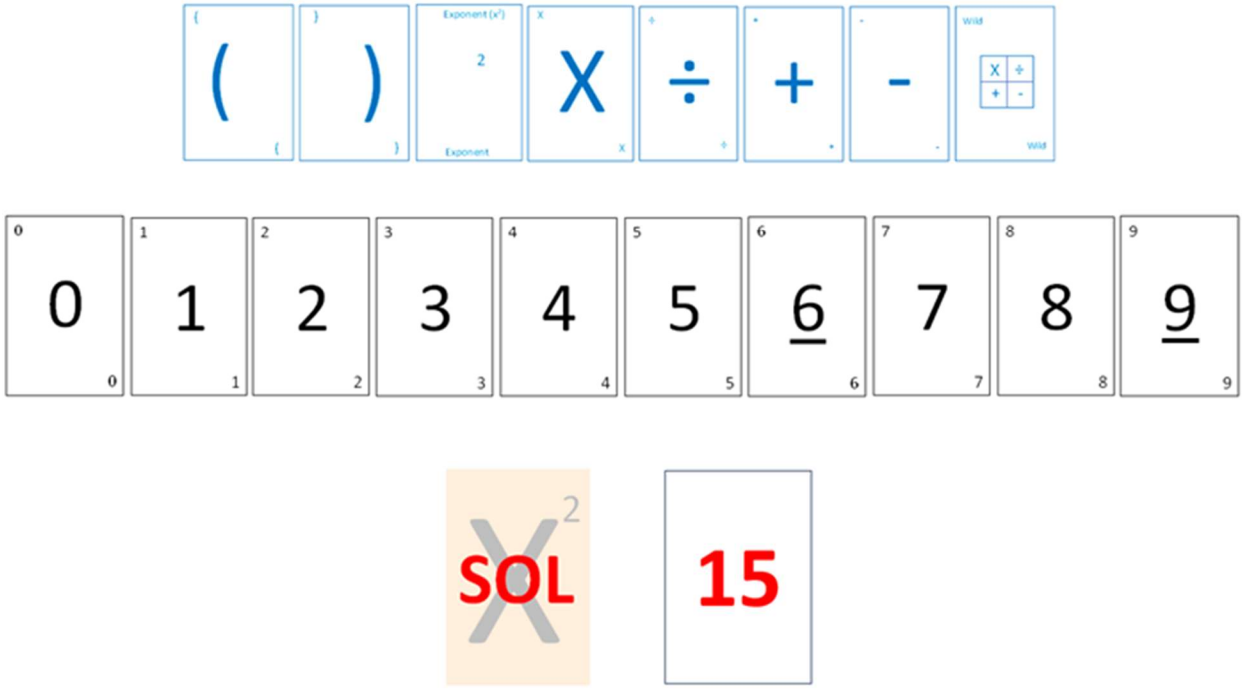

Figure 1. X-Squared Tutorial Setup

To start off with do not use the exponent card. Use any of the three integer cards to create an equation equal to the solution card. You will need to use two of the operator cards and may use the parentheses if necessary. The wild operator card may be used as any type of operator.

An example equation is shown in Figure 2. Use a different set of 3 integers to create your own equation.

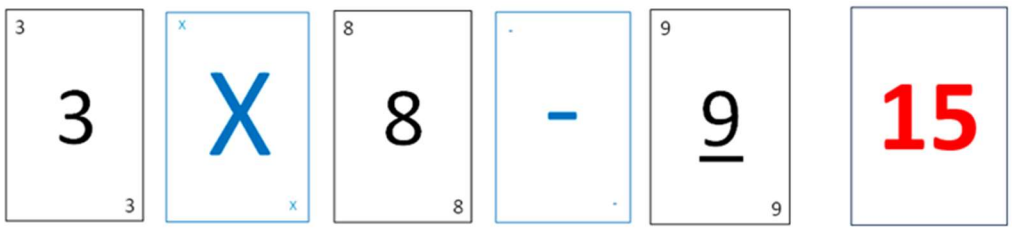

Figure 2. Equation for 3 Integer Cards with 15 Solution Card

Select another solution card and follow the same process. For instance, Figure 3 shows the card 80.

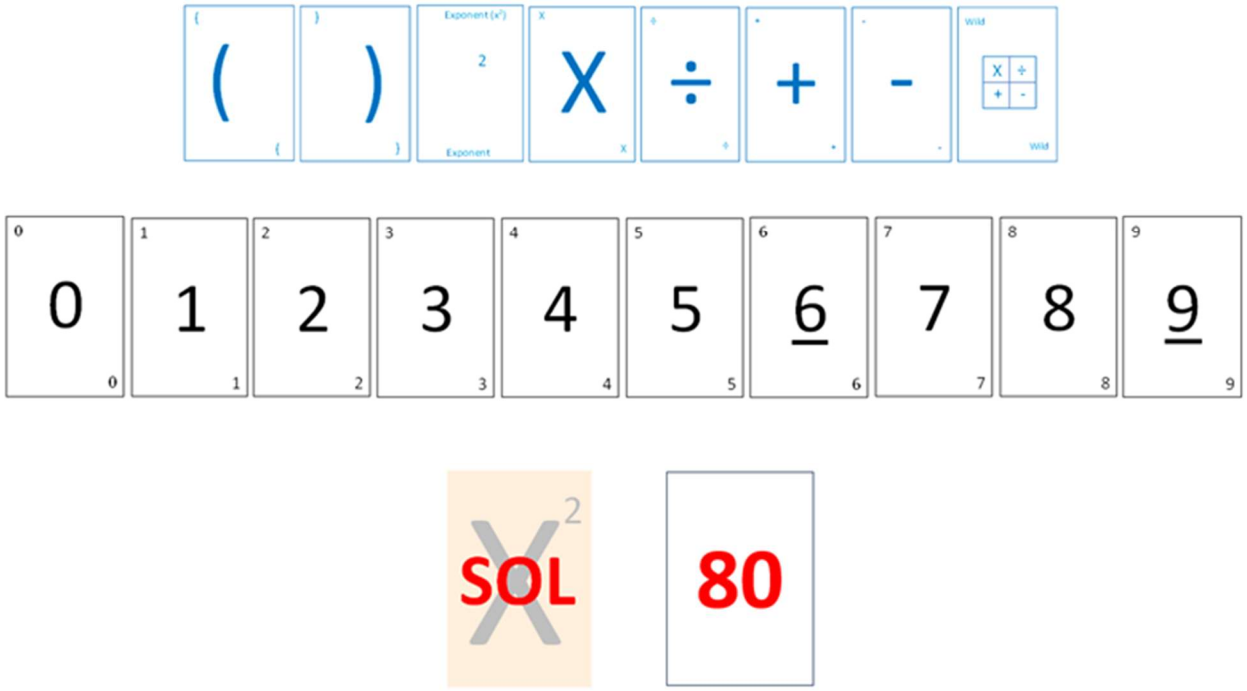

Figure 3. Tutorial Setup with 80 Solution Card

An example of a correct equation for the solution of 80 is shown in Figure 4. Use a different set of 3 cards to create your own equation that is equal to 80.

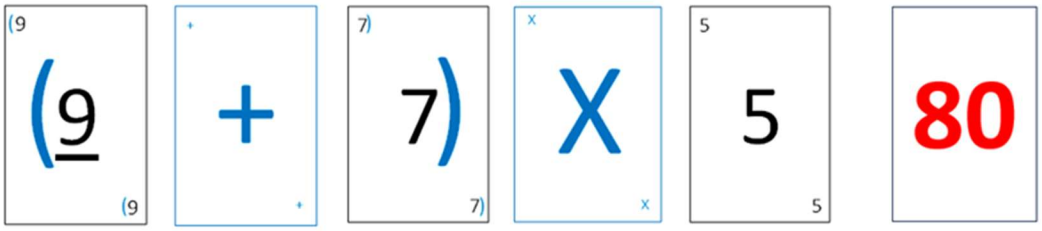

Figure 4. Equation for 3 Integer Cards with 80 Solution Card

Practice this basic equation skill using several more solution cards. In a short time this should become very simple for you.

Next, we are going to add the exponent card into the process. Refer to Figure 5. In your next task you will once again use 3 integer cards, but this time you 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. In this exercise you MUST use one of the two exponent cards.

This exercise takes a little more thought, but with a little practice it should become familiar to you relatively quickly.

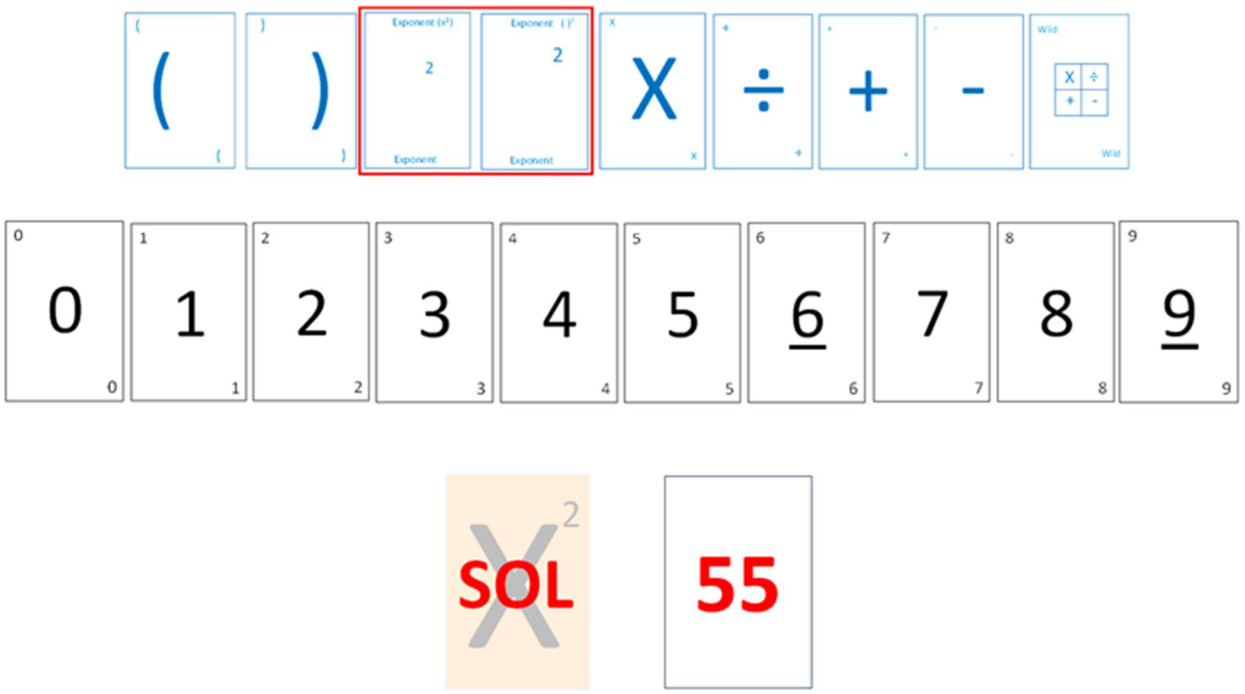

Figure 5. Tutorial Setup with 55 Solution Card, Emphasis on Exponent

Two example equations for the solution of 55 using an exponent card are shown in Figure 6. Try this for yourself by using different integer cards with an exponent card to achieve an equation equal to 55.

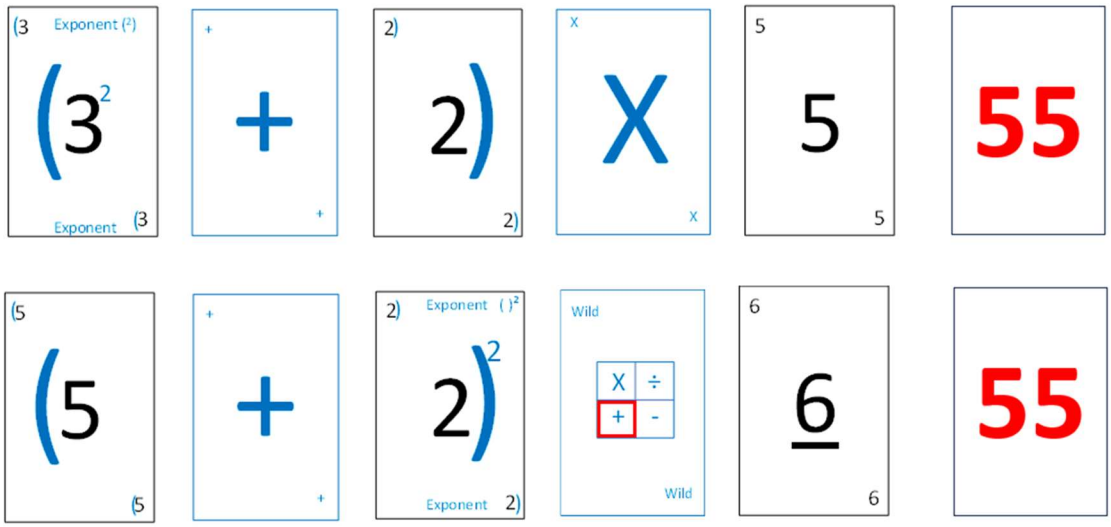

Figure 6. Equations for 3 Integer Cards with 55 Solution Card and Exponents

We will perform this exercise one more time using the number 64 as the solution, as shown in Figure 7.

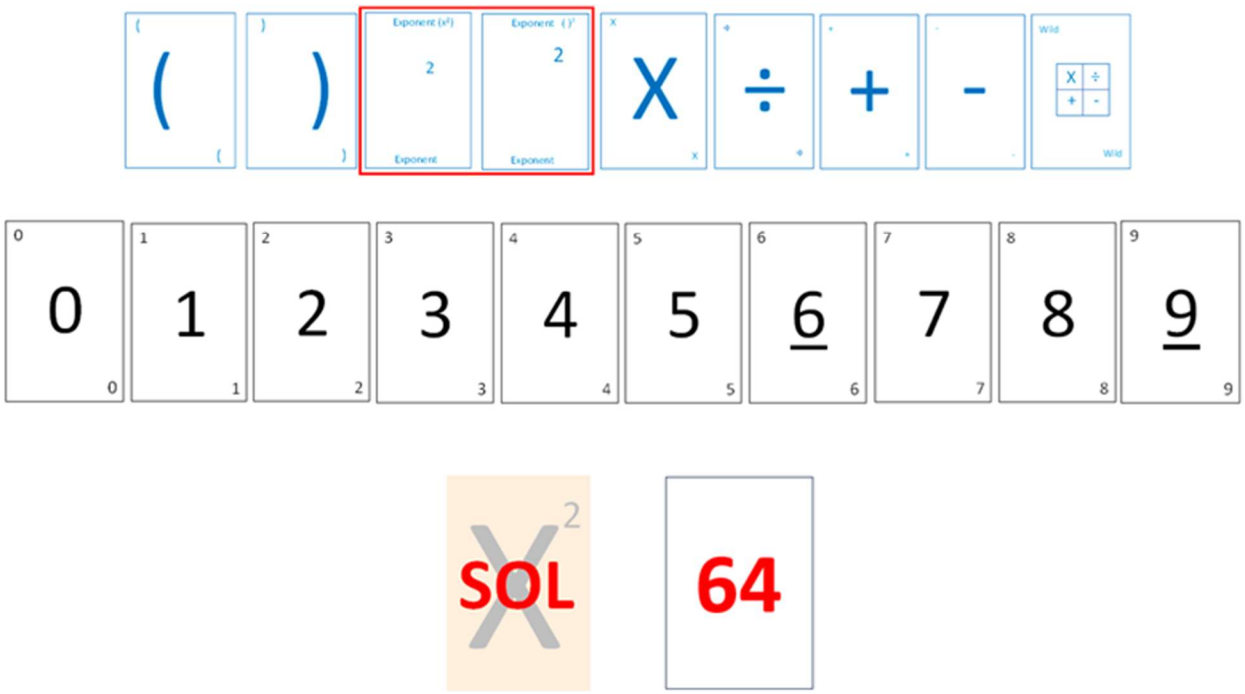

Figure 7. Tutorial Setup with 64 Solution Card, Emphasis on Exponent

Two example equations for the solution of 64 using an exponent card are shown in Figure 8. Try this for yourself by using different integer cards with an exponent card to achieve an equation equal to 64.

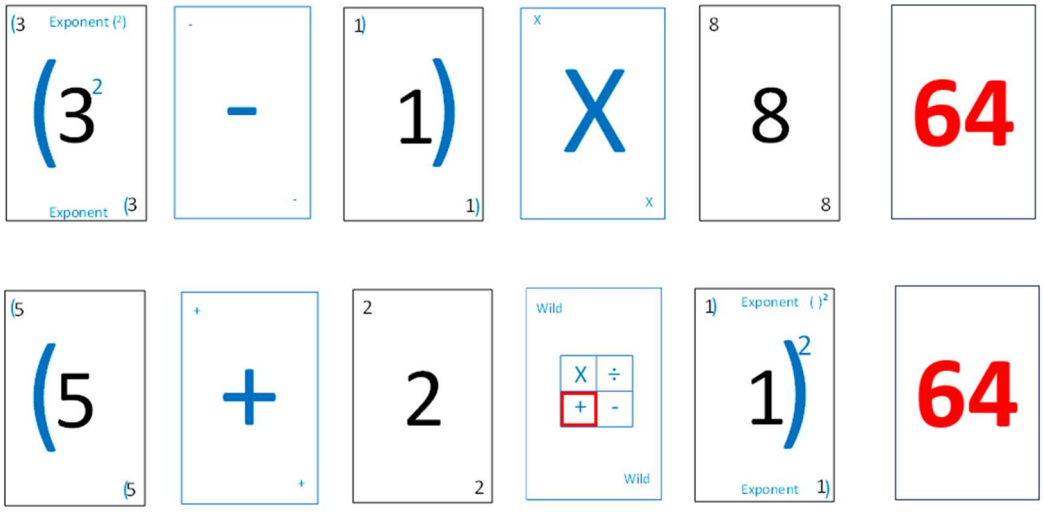

Figure 8. Equations for 3 Integer Cards with 64 Solution Card and Exponents

Repeat this exercise of using 3 integer cards and an exponent card for several different solution cards.

In the next exercise we are going to use 4 integer cards and 3 operator cards. We will start by excluding the exponent card again.

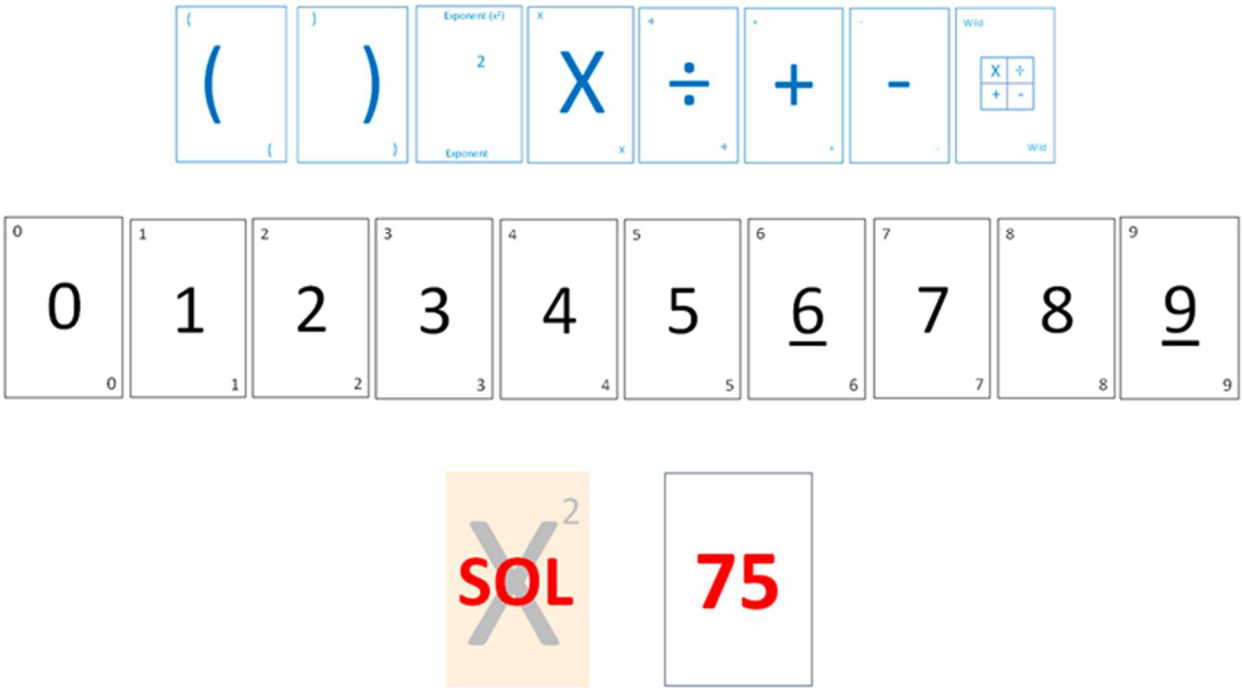

Figure 9. Tutorial Setup with 75 Solution Card, Use 4 Integer Cards w/o Exponent

Two example equations using the 4 integer cards are shown in Figure 10. Try out your own combinations of 4 integer cards without the exponent to create equations equal to 75.

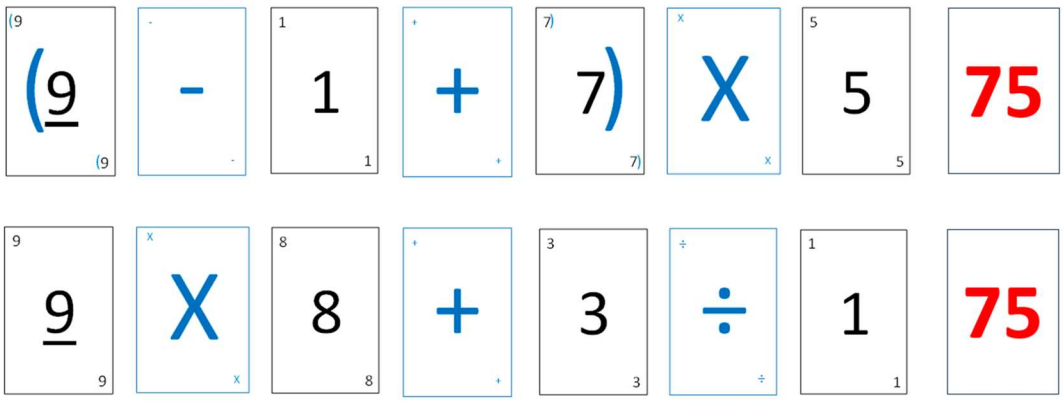

Figure 10. Equations for 4 Integer Cards with 75 Solution Card and No Exponent

We will do one more exercise with four integer cards and no exponent card. See Figure 11.

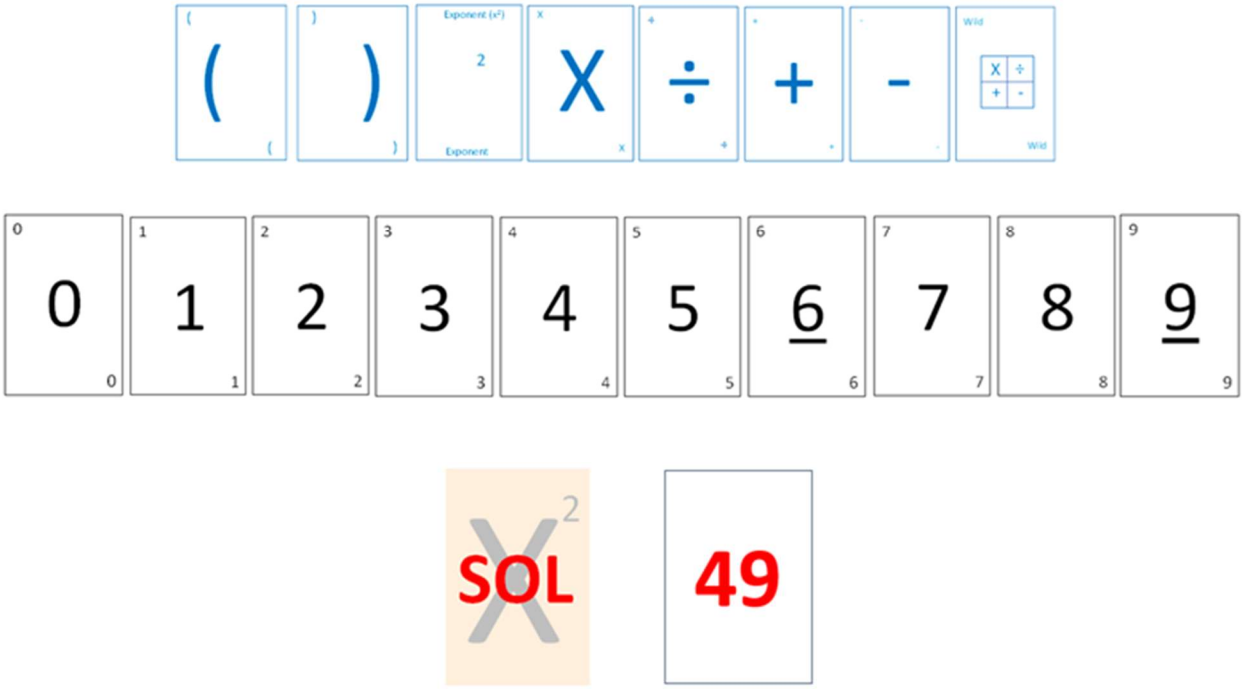

Figure 11. Tutorial Setup with 49 Solution Card, Use 4 Integer Cards w/o Exponent

Two example equations using the 4 integer cards are shown in Figure 12. Try out your own combinations of 4 integer cards without the exponent to create equations equal to 49.

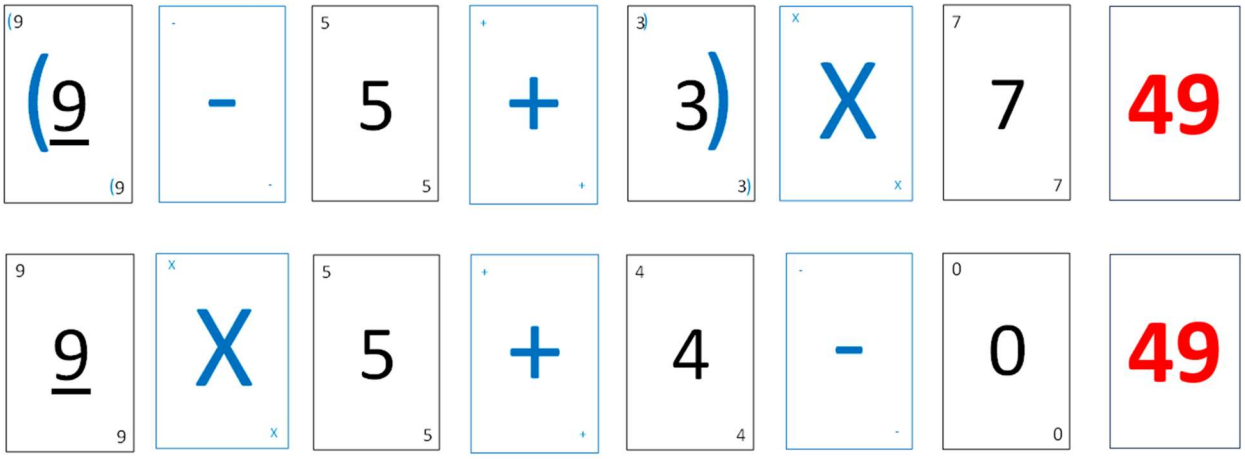

Figure 12. Equations for 4 Integer Cards with 49 Solution Card and No Exponent

In the next exercise we will use 4 integer cards and you MUST use an exponent card.

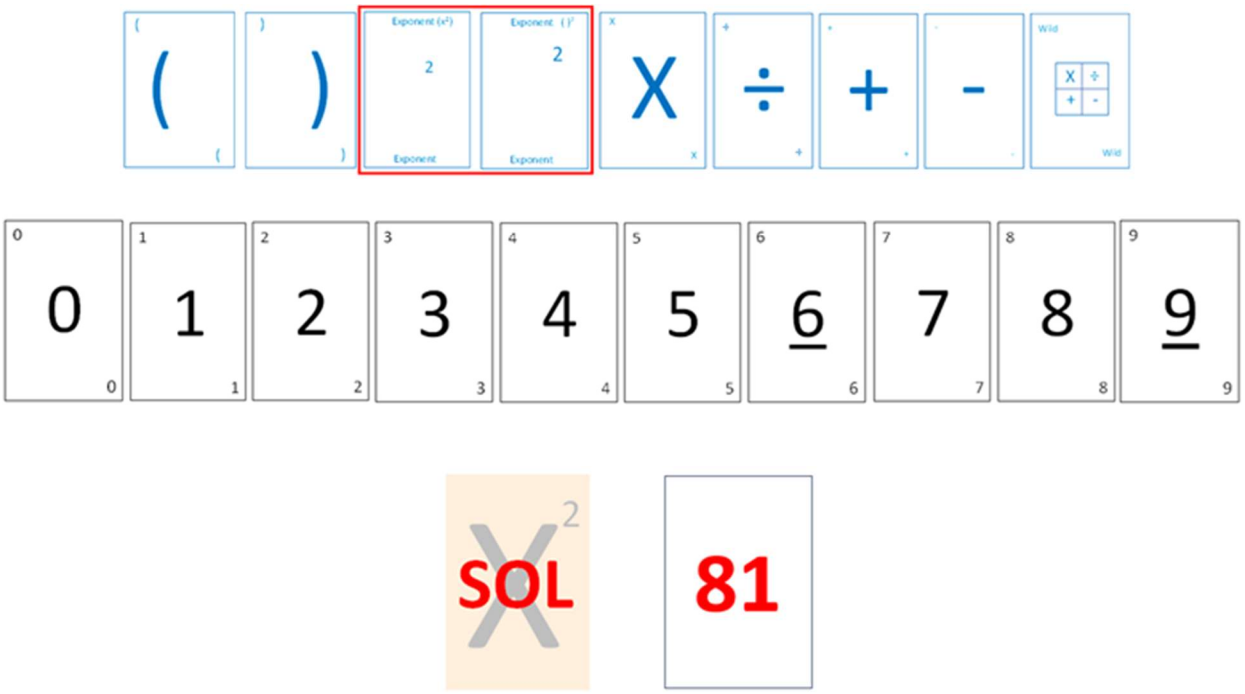

Figure 13. Tutorial Setup with 81 Solution Card, Use 4 Integer Cards AND Exponent

Two example equations using the 4 integer cards and an exponent are shown in Figure 14. Try out your own combinations of 4 integer cards with an exponent to create equations equal to 81.

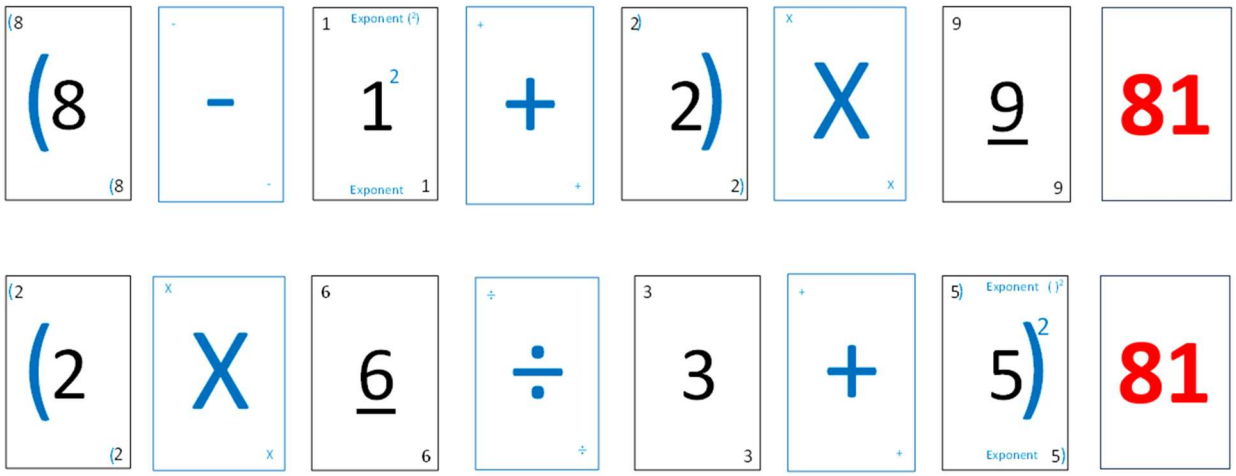

Figure 14. Equations for 4 Integer Cards with 81 Solution Card and Including Exponent

We will do one more exercise with the four integer cards and the exponent. Refer to Figure 15.

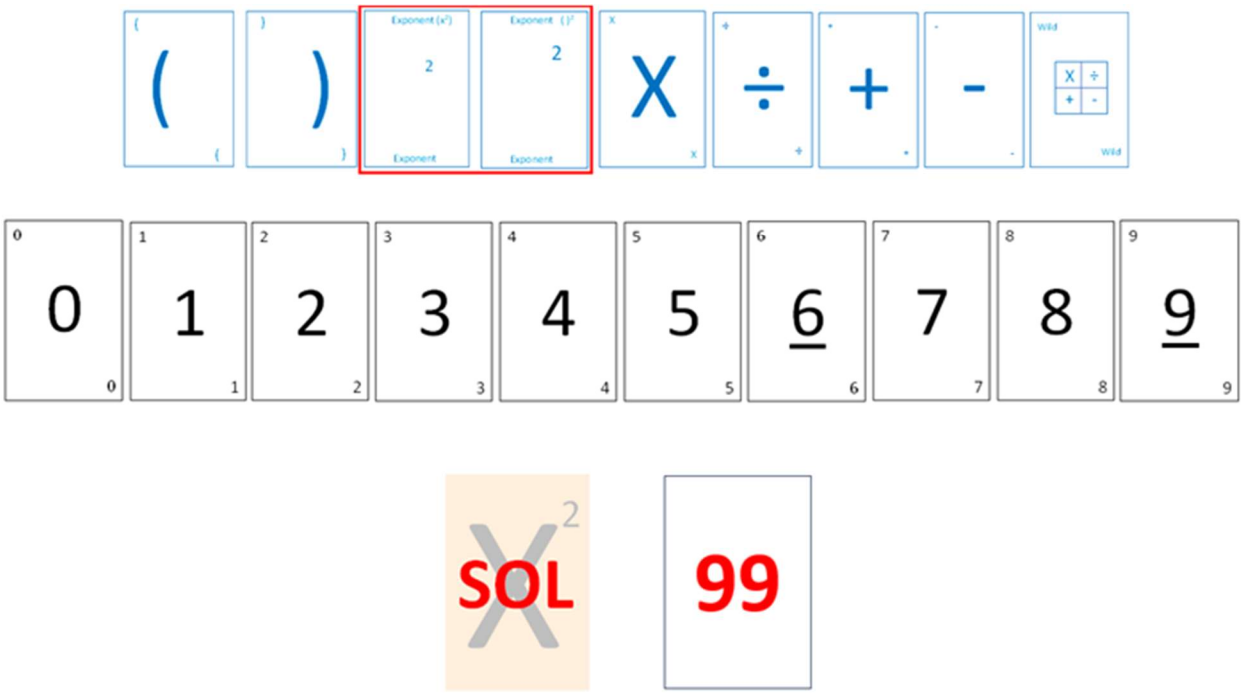

Figure 15. Tutorial Setup with 81 Solution Card, Use 4 Integer Cards AND Exponent

Two example equations using the 4 integer cards and an exponent are shown in Figure 16. Try out your own combinations of 4 integer cards with an exponent to create equations equal to 99.

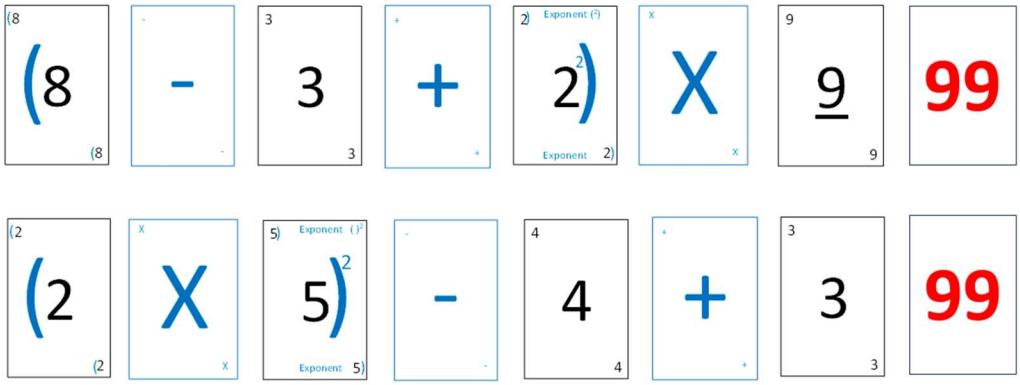

Figure 16. Equations for 4 Integer Cards with 99 Solution Card and Including Exponent

Practice using 4 integers cards with and without the exponent with several different solution cards.

Up until now the tutorial exercises are intended to provide you with a basic foundation of the elements of the X-Squared card deck. You are simply creating equations equal to a randomly selected solution card. There are limitless ways that the cards can be used to create equations, but fundamentally the games all involve figuring out how to arrange integer and operator cards to produce a solution.

In the next section the exercises will be more challenging. The X-Squared card deck was designed to produce challenging games. You will get practice in using the cards in the manner they are intended to be used in the card games that may be played with the deck.

In this exercise you will be provided with 4 specific integer cards. You MUST use all 4 integer cards and 3 operator cards to produce a randomly selected solution. Parentheses and exponent cards are optional in creating equations for this exercise. Here we use the integer cards 5, 6, 7 and 8 as shown in Figure 17.

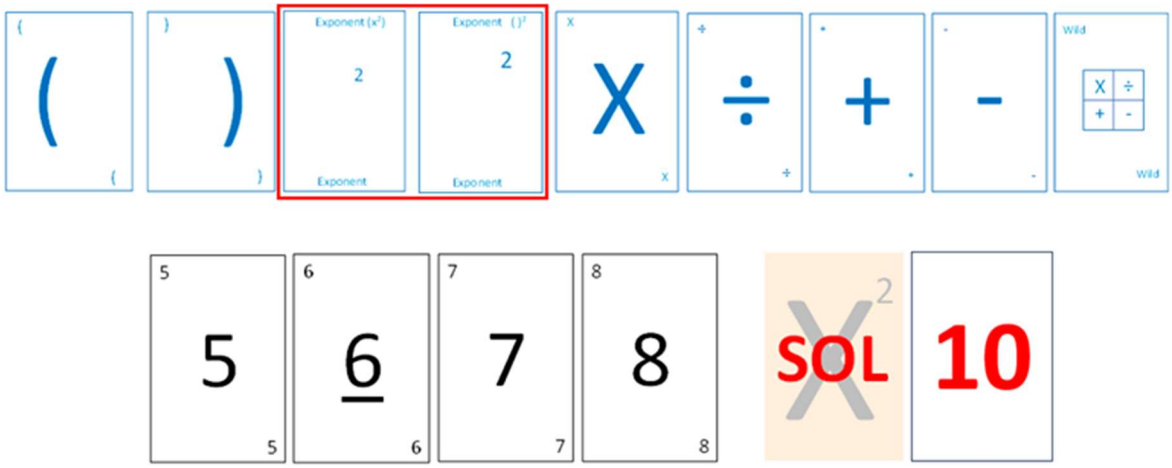

Figure 17. Tutorial Setup with 10 Solution Card, Use 4 Integer Cards (Exponent optional)

The specific four cards can be used to create a value of 10 in at least six ways, shown in Figure 18.

Figure 18. Equations for Integer Cards 5, 6, 7, 8 with 10 Solution Card

The integer card 5, 6, 7 and 8 can be used to produce any of the 24 solutions in the X-Squared card deck. Equations for solution cards 15 through 50 are shown in Figure 19.

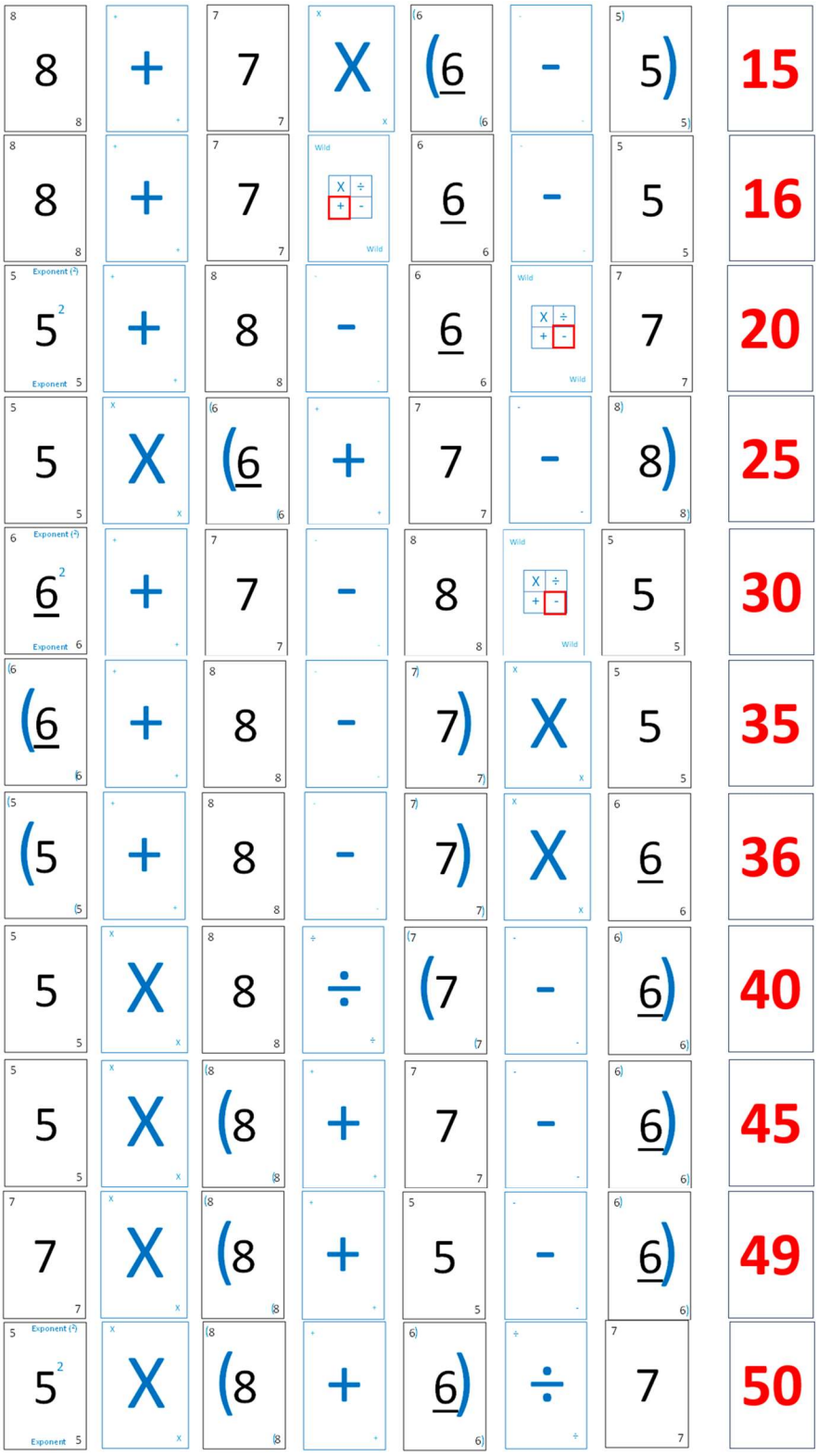

Figure 18. Equations for Integer Cards 5, 6, 7, 8 with Solution Cards 15 to 50

Now it's your turn to practice creating equations using the integer cards 5, 6, 7 and 8. Use these integers along with the operators, parentheses and exponents to create equations equal to each of the solution cards shown in Figure 19. Start by creating an equation equal to 55. Then create an equation equal to 60. Create equation for all 12 solution cards shown below. This exercise may take a while, perhaps several hours to complete. The equation for the 65 solution card is particularly challenging (hint: must use the exponent on an expression in order to create the equation for the solution value of 65).

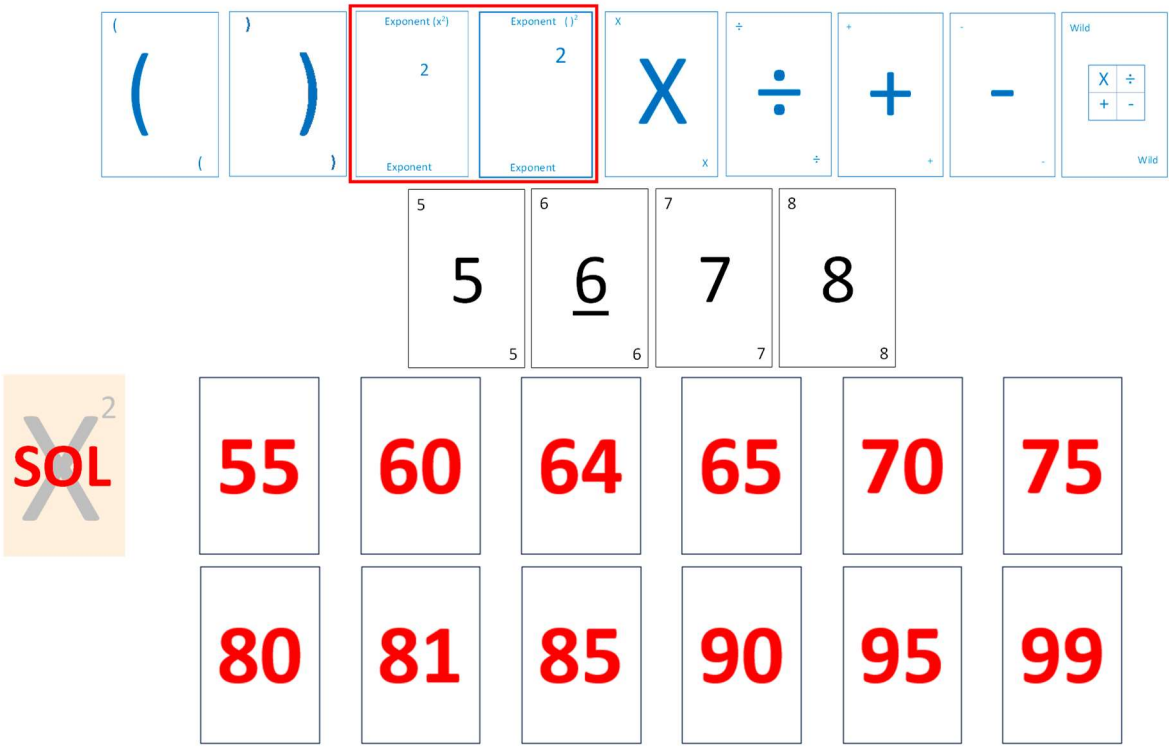

Figure 19. X-Squared Card Setup with 5, 6, 7, 8 Integers and 12 Solution Cards

Once you complete this exercise by producing equations for all 12 solutions in Figure 19 you will have obtained important skills and insights that enable you to play various games using the X-Squared deck. To improve your skills further we recommend you work through the same exercise, solving equations for all 24 solution cards, by using the integer cards 2, 3, 4 and 5. All 24 solutions are possible with these.

Congratulations! You have completed the tutorial. You are now ready to play X-Squared games with your friends and classmates. You can apply your skills every day by solving the Level 4 and/or Level 6 challenges posted on the Daily Challenge page available at cognitivecardgames.com. The Level 6 challenge is more difficult than the Level 4 equations that you have been practicing in this tutorial.

To prepare for the Level 6 challenge we recommend that you work through the Level 5 and Level 6 problems that are available in the X-Squared Worksheets file posted on the Downloads page. These problems take some time initially. When you first attempt to solve a Level 6 Daily Challenge it may take you an hour or more to create the equation. With practice, however, you will become more proficient over time and find that you will be able to solve these challenges in a matter of minutes.

Good luck in your journey with the X-Squared game. Visit the website often to solve the Daily Challenge.