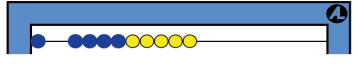
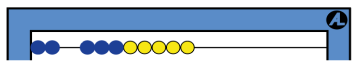
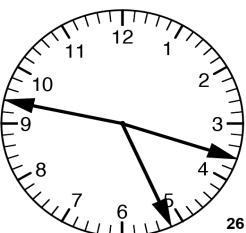
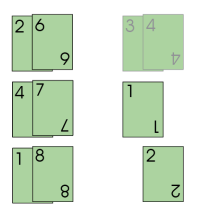


Most recent update: April 13, 2023

# RightStart™ Mathematics

## Corrections and Updates for Math Card Games, 5th edition

GAME	CHANGE DATE	CORRECTION OR UPDATE
N20, Next Number	05/11/2017	In some printings of the 5th edition book, the last line of the game is missing. It should read: The <b>winner is the player who has the highest stack of cards at the end of the game.</b>
A3.1, Handshaking Game	11/10/2021	<p>The first paragraph under play has been changed as shown. Play: Enter 10 on the abacus. Move 9 beads to the right; the player holding the 1-card and the 9-card shake hands. Move one bead to the left. Players with the 2-card and 8-card shake hands. Continue until the abacus shows 9 and 1. Graphic has also been updated.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p><b>Players with 1 and 9 shake hands.</b></p> </div> </div> <div style="display: flex; align-items: center; margin-top: 10px;">  <div style="margin-left: 10px;"> <p><b>Players with 2 and 8 shake hands.</b></p> </div> </div>
A27, Nines on the AL Abacus	04/06/2016	Cards should read: The <b>21</b> multiplication cards with multiples of 9 (9, 18, 27, 36, 45, 54, 63, 72, 81, 90) and about 40 other multiplication cards.
A55, On the Number	05/11/2017	In some printings of the 5th edition book, the last line is dropped off page 44. It should read: Play until the cards <b>are exhausted.</b>
A60, Magic Square Memory	11/24/2015	Objectives should read: <b>To practice addition facts and to use logic to create a magic square.</b>
A62, Addition Puzzle II	12/09/2015	Cards should read: The <b>22</b> numbers needed from the multiplication cards are: 1 3 4 5 7 9 15 16 25 27 30 35 <b>36</b> 40 42 45 48 49 56 60 63 64. <b>The number 92 was removed.</b>
C30, Before the Hour	03/02/2023	<p>Cards should read: "Twelve of each basic number card from 1 to 5 and <b>four</b> of each card from 6 to 9. You also need <b>four to six</b> minute hands."</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;">  <p style="font-size: small;">26 minutes after the hour is 34 minutes before the next hour.</p> </div> </div> <p>The graphics for this game have also been updated.</p>
P30, Slower Multiplication Card Speed	05/11/2017	In some printings of the 5th edition book, the last two lines on page 80 were missing. It should read: <b>Deal: Divide the remaining cards equally among the players. Set aside any extra cards.</b>

P30, Slower Multiplication Card Speed	01/02/2019	This game addresses the concept of common factors. Common multiples were referenced in error. See attached <a href="#">pdf</a> for correct instructions.
P31, Multiplication Card Speed	01/02/2019	This game addresses the concept of common factors. Common multiples were referenced in error. See attached <a href="#">pdf</a> for correct instructions.
P37, Distribution Corners	04/13/2023	The instructions have been updated, as well as the background has been expanded. See attached <a href="#">pdf</a> .
S29, Find the Remainders	05/11/2017	The name of this game has been changed to "Find the <b>Differences</b> ."
S31, Equal Remainders	05/11/2017	The name of this game has been changed to "Equal <b>Differences</b> ."
D6, Remainders	01/02/2018	Under the Background heading, third sentence should read "Ask the players what is $21/3$ [7] and what is $21/7$ [3]?"
D9, Remainder Hearts	01/02/2019	Under Play, the second paragraph should read " <b>In the example shown using the 7s set, the first person played 36, which has 1 as a remainder. The second and third players also played cards, 15 and 50, with remainders of 1. The fourth person did not have such a card and played 56, a multiple of 7. The highest card with the remainder, 50, takes all the cards (with one unwanted multiple) and starts the next round.</b> " Graphic is changed to show cards 36, 15, 50, and 56.
D10, Short Division	03/02/2023	Under play, the second paragraph has been changed: "If a player is unable to play, she takes <b>three</b> of her cards and <b>two</b> cards from the stock and forms a new dividend and divisor in a new row."
F22, Mixed to Improper Fractions	02/03/2021	In the background section of the instructions, the second sentence regarding the number of thirds in one should have an answer of <b>3</b> , not 1. The next sentence regarding the number of thirds in two should be <b>6</b> , not 2.
F22.1 to F22.4, Corner Fraction variations	03/29/2017	These games are new and not in the 4th edition or earlier printings of the 5th edition. See attached <a href="#">pdf</a> .
F25, Gathering the Factors and F26, Gathering the Factors Solitaire	02/09/2021	The number of cards is incorrect: The 4-cards should be a quantity of <b>7</b> , not 6. The 5-cards should be a quantity of <b>9</b> , not 8. The 7-cards should be a quantity of <b>5</b> , not 4. Total quantity of basic cards needed is <b>61</b> , not 58.
F39, Fraction Times A Fraction	04/05/2021	Under Cards, there is "another deck of cards" listed. This is incorrect. Only the listed fraction cards are needed.
F41, Fraction of a Fraction of 24	04/21/2017	The example should show as follows: $24 \times \frac{1}{2} \times \frac{2}{3} = \underline{\quad}$ $\overset{8}{\cancel{24}} \times \frac{\cancel{1}}{\underset{1}{\cancel{2}}} \times \frac{\cancel{2}}{\underset{1}{\cancel{3}}} = 8$
F43, Mixed Fraction Times a Whole Number	05/11/2017	The name of this game has been changed to "Mixed <b>Number</b> Times a Whole Number."
F45, Fractions in Four Operations	05/11/2017	In the second to last paragraph of instructions, under Play, the space is missing between the 4 and the 1/2, looking like $41/2$ . It should be <b>4 1/2</b> .

**P14 MULTIPLICATION OLD MAIN**

In this Old Main game (A4), the same five or six multipliers are used throughout. The pairs are the corresponding multipliers and products of the sets chosen.

**Objective:** To practice the multiplication facts.

**Manipulative:** The Skip Counting Patterns (Appendix p. 18).

**Number of players:** Two to five.

**Cards:** Each player takes the same five or six basic number cards and the corresponding multiplication cards from a chosen set. A sample for two players is shown at the right.

**Deal:** Thoroughly shuffle all the cards. Remove one card without looking at it and set it aside. Deal the remaining cards to all the players. It does not matter if some of the players receive an extra card.

**Object of the game:** To avoid having the last card, the “dead end.”

**Play:** Be sure the players know the multiplicands chosen (7s and 8s shown here). To make their first searches, the players may spread their cards out on the floor or table. The player looks at the first basic number card in their hand, thinks of the possible products, and searches for it among the multiplication cards in hand. Any pairs are placed on two piles face up. The player proceeds to the next basic number card in their hand.

When all the players have found all the pair in hand, the player to the left of the dealer takes a card from the player on his left, who holds her cards fanned out and face down. While the first player checks for a pair, the next player takes a turn.

Play continues until one player is left with the dead end card. The loser can check this card with the card set aside earlier.

4	5	6	7	8	9
28	35	42	49	56	63
28	35	42	49	56	63

4	5	6	7	8	9
32	40	48	56	64	72
32	40	48	56	64	72

**A sample of pairs using the 7s and 8s.**

## P28 WEIGHTED MULTI-FUN

The game is played the same as Multi-Fun (P20), but the scoring differs. Instead of receiving a point for each card played, the score is obtained by multiplying the number of the row or column by the number of cards played. For example, a player putting three cards in the 9s row would receive 27 points. This encourages the players to look at the higher rows and columns.

## P29 FIND THE TWO FACTORS

This game asks the players to find the two factors for a product.

**Objective:** To practice using the multiplication facts.

**Background:** Explain the term *factor*. Both the multiplicand and the multiplier are factors. In the equation,  $8 \times 9 = 72$ , 8 and 9 are factors.

**Manipulative:** A Multiplication Table (Appendix page 19 or 20).

**Number of players:** Two to four; teams may play.

**Cards:** About half of the multiplication cards and all the basic number cards except the 0s.

**Deal:** Each player takes five basic number cards. After playing a card, the player draws another card to keep five in hand.

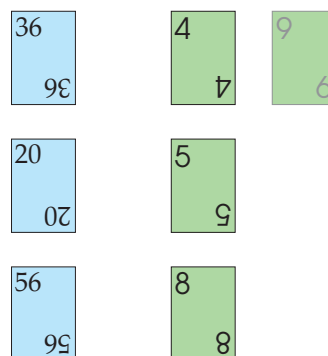
**Layout:** Start two rows with one multiplication card in each row.

**Object of the game:** To collect the most basic number cards by completing rows. The first multiplication card equals the product of the second and third cards.

**Play:** The first player plays one card that is a factor less than 10 of the multiplication card to either row. The next player plays either the second factor of the row or the first factor of another row. The player completing the row removes it from the table; he collects the basic number cards and sets aside the multiplication card. Start a new row whenever there are fewer than two rows remaining on the table.

A player unable to play skips his turn but starts a new row. If there are six or more rows on the table, a player unable to play may choose, instead, to replace any number of cards in his hand with cards from the stock.

The players continue to take turns until either stock runs out.



$$36 = 4 \times 9.$$

## P30 SLOWER MULTIPLICATION CARD SPEED

This slower version of speed is fun in itself and is good practice for the next game, Multiplication Card Speed (P31).

**Objective:** To become aware of common factors.

**Background:** Introduce the term *common factor*. It is a factor that is contained in both products. In 72 and 18, a common factor is 9 since  $72 = 8 \times 9$  and  $18 = 2 \times 9$ .

**Number of players:** From two to four.

**Cards:** The deck of multiplication cards. Use fewer cards for two players.

**Layout:** Deal four cards to each of two reserve piles in the middle of the table. Also deal two cards face up between the reserve piles, as shown, to start the two building piles.

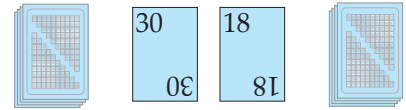
**Deal:** Divide the remaining cards equally among the players. Set aside any extra cards.

**Object of the game:** To be the first player out of cards.

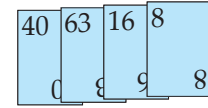
**Play:** Each player picks up only four of the cards dealt to her. During a turn, a player may play up to four cards. Following a turn, she picks up cards from her stack until she again has four cards.

To play a card, it must have a common factor as either of the cards on the building piles.

Assume, as shown on the right, the building piles are 30 and 18 and the player has 40, 63, 16, and 8. The player may play the 40 on the 30; they have 10 as a common factor. Then she can play the 16 on the 40; the common factor is 4. She can play the 8 on the 16. Lastly she can play the 63 on the 18, the other building pile. The common factors may not exceed 10.



If neither can play, players turn over the next card from their reserve piles and play resumes. The players take turns, building on the top of the two piles until one player is out of cards.



### P31 MULTIPLICATION CARD SPEED

This speed game is similar to regular speed games, but it is much more interesting and exciting. This is a favorite game of some children.

**Objective:** To quickly identify common factors under 10.

**Number of players:** Two, sitting across from each other.

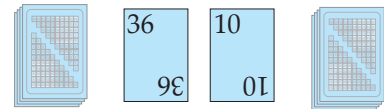
**Cards:** The deck of multiplication cards.

**Deal:** First deal four cards face down to the two reserve piles. Leave space between them for the two building piles. Then divide the remaining cards equally between the players.

**Object of the game:** To be the first player to play all his cards.

**Play:** Each player picks up four cards from those dealt him. Each time that a card is played, another is picked up.

When both players are ready, they flip over the top card from the reserve pile on their right and place it just to the left to start the building piles.



Next each player checks his hand for a card with the same factor (under 10) as either number on the building piles. For example, if a building card is 36, multiples of 4, 6, and 9 can be considered as 4, 6, and 9 are factors of 36. Possible cards to play include 4, 8, 12, 16... 40; and 6, 12, 18, 24... 60; and 9, 18, 27, 36... 90. Then if a player plays a 12 on the 36, possible cards to play on the 12 are multiples of 2, 3, 4, or 6.

Play continues to the building piles without regard to turn. If neither can play, players turn over the next card from their reserve piles and play resumes.

### P32 RING AROUND THE PRODUCTS

Both the multiplication cards and the basic number cards are used in this game that reviews most of the multiplication facts.

**Objective:** To provide the players with an opportunity to use the multiplication facts.

**Manipulative:** A Multiplication Table (Appendix page 19 or 20).

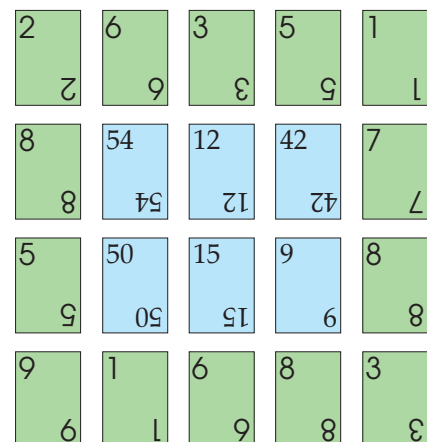
**Number of players:** From two to four.

**Cards:** The deck of multiplication cards and the deck of basic number cards, without 0s; each forms a separate stock.

**Layout:** In the center of the table, place face up six multiplication cards, in two rows of three each. Around these cards, place 14 basic number cards, also face up.

**Object of the game:** To collect the most multiplication cards.

The numbers on two basic number cards are multiplied together to give the number on the multiplication card.



**P37 DISTRIBUTION CORNERS™**

This is the basic Corners™ game (A9), but scored in a new way. Do not bother the players with the term *distributive property* until the concept is thoroughly mastered.

**Objective:** To understand the distributive property of multiplication.

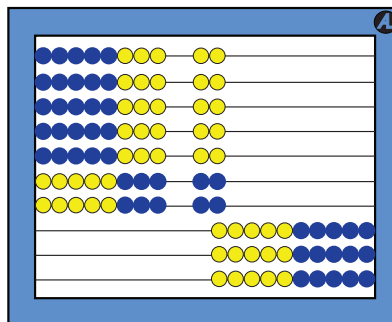
**Background:** Ask a player to enter on an AL Abacus  $8 \times 7$ . Next ask a player to enter  $2 \times 7$  a short distance away. See figure on the right. Ask, "How much it is?" [ $56 + 14 = 70$ ] Then ask, "Is this the same as  $10 \times 7$ ?" [yes]

Repeat for other examples, such as  $5 \times 3$  plus  $4 \times 3$  compared to  $9 \times 3$  or  $8 \times 4$  plus  $2 \times 4$  compared to  $10 \times 4$ .

**Play:** Play the usual Corners (A9) game, but the score is the sum multiplied by the number opposite on the card being played to. See the figures below for examples.

As usual, the first card played receives no score. The score for the second card is the sum of 8 and 2 multiplied by 7, the number opposite the 8. The equation can be calculated as  $8 \times 7$  plus  $2 \times 7$ , which is the same as  $10 \times 7$ . The player may choose either method to find the sum.

The next player attaches the third card and multiplies the score by 5, the number opposite the 10. So the score becomes  $(10 \times 5) + (5 \times 5)$ , which is the same as  $15 \times 5$ . The fourth card is a corner, so the score is  $(5 \times 1) + (10 \times 1)$  since 1 is opposite the 5, plus  $(2 \times 9) + (8 \times 9)$  since 9 is opposite the 2.



$$(8 \times 7) + (2 \times 7) = 70 \text{ and } 10 \times 7 = 70$$

**First card**

Z
1      9
8
2
5      10
4

**Second card**

$$(8 \times 7) + (2 \times 7) = 70$$

Z
1      9
8
2      2
5      10      9
4      6

**Third card**

$$(10 \times 5) + (5 \times 5) = 75$$

**Fourth card**

Z	1
1      9      10      2	
8      8	
2      2	
5      10      9	
4      6	

$$(5 \times 1) + (10 \times 1) = 15$$

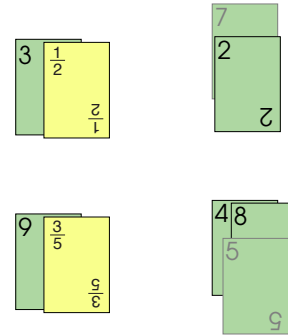
$$(2 \times 9) + (8 \times 9) = \frac{90}{105}$$

**Play:** The first player plays her cards to form all or part of the improper fractions. Any number of cards may be played per turn and to any row. Example shows  $7/2$  and  $48/5$ . The numerator and denominator may be played in either order.

The player completing a fraction takes the row, sets aside the basic number cards to be reused, and collects the fraction card.

A player unable to play forms a new mixed number by laying down one of his basic cards and one of the fraction cards from the stock.

Always keep at least two mixed numbers on the table; when a row is completed and collected, prepare new mixed numbers from the stock. Reuse the basic number cards if the stock becomes exhausted.



### F22.1 CORNERS™ WITH EIGHTHS

This is a fraction version of Corners™ Three (A38). The scoring is what makes this a fraction game; the numbers on the cards are considered to be eighths. The scoring provides practice in adding mixed numbers mentally.

**Objective:** To practice adding eighths and changing improper fractions to proper fractions without simplifying.

**Number of players:** Two to four.

**Cards:** The 50 Corners cards.

**Layout:** The stack of cards is placed face down on the table. Each player draws four cards initially and draws another card each time after playing a card. Players' cards are laid out face up in full view of all players.

**Object of the game:** To make the highest score.

**Play:** The rules of the game are the same as Corners Three (A38), except that the numbers on the cards are considered to be *eighths*.

Players do their own scoring. Most of the calculating can be done mentally. Following are some examples of scoring:

$$\text{Initially joining a 5 and 7: } \frac{12}{8} = 1\frac{4}{8}$$

$$\text{Next joining a 7 and 8: } 1\frac{4}{8} + \frac{15}{8} = 1\frac{19}{8} = 3\frac{3}{8}$$

$$\text{Next joining a 9 and 9: } 3\frac{3}{8} + \frac{18}{8} = 5\frac{5}{8}$$

### F22.2 CORNERS™ WITH TENTHS

This is another fraction version of Corners™ Three (A38). For scoring the numbers on the cards are considered to be tenths. The game is played like Corners with Eighths (F22.1) except the numbers on the cards are tenths.

### F22.3 SUBTRACTION CORNERS™ WITH EIGHTHS

To play this Corners™ subtraction game, players start with a certain value and subtract their scores. The winner is the first player to reach zero or the player with the lowest score if no one can play. The game is played like Corners with Eighths (F22.1).

The initial scores are as follows:

Number of players	2	3	4
Initial score	45	30	22

### F22.4 SUBTRACTION CORNERS™ WITH TENTHS

This Corners™ subtraction game is played like Subtraction Corners with Eighths (F22.3), except the numbers on the cards are tenths. The winner is the first player to reach zero or the player with the lowest score if no one can play.

The initial scores are as follows:

Number of players	2	3	4
Initial score	30	20	15

### F23 IMPROPER FRACTION WAR

This third fraction war game includes improper fractions and fractions that are not simplified for comparisons.

**Objective:** To expand the players’ abilities to include comparing improper fractions and fractions that are not simplified.

**Background:** To convert an improper fraction to a mixed number, a new meaning may be given to the line dividing the numbers of a fraction. The fraction  $8/2$  has been thought of as eight  $1/2$ s, which is 4. But it also means 8 divided by 2 or how many twos in 8. The answer is also 4. Now take  $7/3$ . How many threes in 7? There are 2 and one-third.

$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$

**Thinking of  $\frac{8}{2}$  as 8 halves or as 8 divide by 2.**

So  $7/3 = 2 \frac{1}{3}$ . Ask the player to change  $5/2$ ;  $[2 \frac{1}{2}] \frac{8}{3}$ ;  $[2 \frac{2}{3}]$  and  $9/3$ . [3]

$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$	$\frac{1}{3}$
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**Thinking of  $\frac{7}{3}$  as 7 thirds or as 7 divided by 3.**

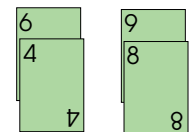
**Number of players:** Two.

**Cards:** Use the basic number cards, but no 0s.

**Layout:** Divide the deck between the two players, who sit on the same side of the cards.

**Object of the game:** To capture the most cards. The players decide before beginning how long to play.

**Play:** Each player takes two cards from her stack. Form fractions by overlapping the smaller number about one inch over the larger number as shown. Consider this combination an improper fraction. Convert the numbers to mixed for comparison. The player with the greater value captures all four cards.



**Comparing  $6/4$  and  $9/8$ .**

The remaining rules are the same as Fraction War (F7).

### F23.1 SIMPLIFYING WITH THE MULTIPLICATION TABLE

Yes, you can use the multiplication table to simplify fractions. It’s amazing and fun.

**Objective:** To simplify fractions, using the Multiplication Table (Appendix page 19).

**Background:** Look at the examples on the next page to see how to use the multiplication table to simplify fractions. For example,  $49/70$  simplifies to  $7/10$  because they are both divided by 7.

**Number of players:** Two to four.

**Cards:** Use about 20 multiplication cards and about 20 basic number cards, including 10s but no 0s, for each player.