Quantum Mathematics and the Standard Model of Physics Part Three:
"Collective Multiplication and Division Functions"

In this Standard Model of physics themed chapter, we will be working with two of the four overall types of collective functions, these being collective multiplication functions and collective division functions. (While the other two overall types of collective functions, these being collective addition functions and collective subtraction functions, will be examined in "Quantum Mathematics and the Standard Model of Physics Part Seven: 'Mirroring between Collective Functions' ".) The collective multiplication functions and collective division functions which we will be working with in this chapter, as well as several of the upcoming chapters, all involve the multiplication or division of each of the members of the base set by the same individual base number, as will be explained more thoroughly in a moment. In the first two sections of this chapter, we will examine each of these collective multiplication functions and collective division functions, and then in the third section of this chapter, we will compare various instances of related collective functions, these being pairs of collective functions which are related via their numbers and functions. These collective functions all display various forms of mirroring and matching, both in relation to themselves, as well as between one another, all of which will be explained as we work our way through this chapter. (While the various instances of numerically related collective multiplication functions will be compared in the endnotes of this chapter, as will the various instances of collective division functions.)

Though before we begin, we need to establish a few of the basic terms which we will be using throughout this chapter, as well as many of the upcoming Standard Model of physics themed chapters. (It should be noted that the specific numbers and relationships which are involved in the examples which are shown below are completely arbitrary. While it should also be noted that in addition to individual functions, all of these terms also apply in relation to collective functions, as is indicated to the right of each of these examples, in parentheses.)

We will start with the familiar terms which are shown below.

sibling functions (or *sibling collective functions*)
and
cousin functions (or *cousin collective functions*)

While in situations in which we are comparing these sibling or cousin functions in relation to the same number, we will be using terms such as those which are shown below.

sibling functions of the 1 (or *sibling collective functions of the 1*)
or
cousin functions of the 1 (or *cousin collective functions of the 1*)

Furthermore, when we are specifying which of the two pairs of sibling or cousin functions we are referring to, we will include the signs of the functions in parentheses, as is the case in relation to the terms which are shown below.

(+/-) sibling functions of the 1 (or *(+/-) sibling collective functions of the 1*)

or

(+/X) cousin functions of the 1 (or *(+/X) cousin collective functions of the 1*)

While in relation to situations in which we are comparing the related functions of two different though related numbers, we will use terms such as those which are shown below.

2/5 cousin (+/-) sibling functions (or *2/5 cousin (+/-) sibling collective functions*)

or

2/7 sibling (+/X) cousin functions (or *2/7 sibling (+/X) cousin collective functions*)

Finally, in relation to situations in which we are comparing two matching functions, such as "+" and "+", or "-" and "-", of different though related numbers, we will use terms such as those which are shown below.

2/7 sibling addition functions (or *2/7 sibling collective addition functions*)

or

2/5 cousin division functions (or *2/5 cousin collective division functions*)

The terms which are described above comprise the basic terminology which we will be using throughout the remaining Standard Model of physics themed chapters. Though again, the specifics of these various terms, such as the numbers, functions, and relationships which they involve, will be altered as the situation requires.

In the first section of this chapter, we will examine the various forms of self-mirroring which are displayed by each of the collective multiplication functions of the base numbers, while we will examine the various forms of self-mirroring which are displayed by each of the collective division functions of the base numbers in the second section of this chapter. In order to yield these collective multiplication functions, we will multiply each of the base numbers by each of the members of the base set, in that the multiplication of the numbers 1-9 by the 1 will yield the collective "X1" multiplication function, the multiplication of the numbers 1-9 by the 2 will yield the collective "X2" multiplication function, the multiplication of the numbers 1-9 by the 3 will yield the collective "X3" multiplication function, etc. . The color code which we will be using throughout this chapter will for the most part indicate raises and drops (or no change) in the values of the base numbers, with most of the instances of green highlighting indicating a raise in the value of a number, most of the instances of red highlighting indicating a drop in the value of a number, and most of the instances of blue highlighting indicating no change in the value of a number. (These three colors will also be used arbitrarily, in order to indicate a variety of other qualities, and these instances of arbitrary highlighting will be explained as we progress.)

We will start with the collective "X1" multiplication function, which is shown below. (It should be noted at this point that throughout this chapter, we will be working exclusively with condensed values of the solutions which are yielded by the individual functions, while the non-condensed values of the solutions will not be shown.)

$$1X1=\text{same (0)} \; 1 \; \text{(nc)}$$
$$2X1=\text{same (0)} \; 2 \; \text{(nc)}$$
$$3X1=\text{same (0)} \; 3 \; \text{(nc)}$$
$$4X1=\text{same (0)} \; 4 \; \text{(nc)}$$
$$5X1=\text{same (0)} \; 5 \; \text{(nc)}$$
$$6X1=\text{same (0)} \; 6 \; \text{(nc)}$$
$$7X1=\text{same (0)} \; 7 \; \text{(nc)}$$
$$8X1=\text{same (0)} \; 8 \; \text{(nc)}$$
$$9X1=\text{same (0)} \; 9 \; \text{(nc)}$$

Above, we can see that the collective "X1" multiplication function involves a very simple form of overall behavior, in that the multiplication of each of of the base numbers by the 1 causes the same type of change, this being no change at all. (The nine instances of a lack of change which are involved in the collective "X1" multiplication function are all indicated above with blue highlighting, as well as the designations of "(nc)".) This overall lack of change qualifies the collective "X1" multiplication function as a no change collective function.

At this point, it should be noted that the specifics of the various forms of self-mirroring which are displayed by the individual collective multiplication functions, as well those which are displayed by the collective division functions, are the less important of the forms of mirroring which will be examined in this chapter. The more important forms of mirroring are those which are displayed between the various instances of related collective functions, all of which will be examined in the third section of this chapter.

Next, we will examine the collective "X2" multiplication function, which is shown below.

$$1X2=\text{up (1)} \; \text{to 2 (**)}$$
$$2X2=\text{up (2)} \; \text{to 4 (**)}$$
$$3X2=\text{up (3)} \; \text{to 6 (s/c) (**)}$$
$$4X2=\text{up (4)} \; \text{to 8 (**)}$$
$$5X2=\text{down (4)} \; \text{to 1 (*)}$$
$$6X2=\text{down (3)} \; \text{to 3 (s/c) (*)}$$
$$7X2=\text{down (2)} \; \text{to 5 (*)}$$
$$8X2=\text{down (1)} \; \text{to 7 (*)}$$
$$9X2=\text{same (0)} \; 9 \; \text{(nc) (s-s/c) (**)}$$

Above, we can see that the multiplication of the individual members of the base set by the 2 yields a variety of unique instances of change, with the specifics of the instances of change depending on which of the base numbers is being multiplied, in that the first four of these individual functions, these being "1X2", "2X2", "3X2", and "4X2", all involve a raise in the value of the number which is involved in the function, and the second four of these individual functions, these being "5X2", "6X2", "7X2", and "8X2", all involve a drop in the value of the number which is involved in the function. Also, we can see that the values of these raises and drops display a palindromic form of mirroring, as is shown here: 12344321. (This palindromic form of mirroring is also maintained in relation to the function "9X2", in that the non-condensed product which is yielded by the function "9X2" condenses to the 9, and this condensed value of 9 displays matching in relation to the condensed value of the product which is

yielded by the function "0X2", which is not included in the diagram which is seen above.) While we can also see above that in this case, the 3,6,9 family group members all display unique forms of sibling/cousin mirroring in relation to the condensed values of the products which they yield, in that the 3 yields a non-condensed product which condenses to its sibling/cousin the 6, the 6 yields a non-condensed product which condenses to its sibling/cousin the 3, and the self-sibling/cousin 9 yields a non-condensed product which condenses to the self-sibling/cousin 9, all of which is indicated above with blue highlighting, as well as the designations of "(s/c)" in relation to the two instances of sibling/cousin mirroring, and "(s-s/c)" in relation to the lone instance of self-sibling/cousin mirroring. Also, we can see above that in relation to the collective "X2" multiplication function, there are four instances of sibling mirroring displayed between the original numbers, these being the factors which are oriented to the far-left of the chart, and the values of the changes in the numbers, these being the colored numbers which are oriented to the center of the chart, in that the 5 drops by its sibling the 4, the 6 drops by its sibling/cousin the 3, the 7 drops by its sibling the 2, and the 8 drops by its sibling the 1, all of which is indicated above with "(*)"s. While we can also see in the chart which is shown above that there are instances of matching displayed between the original numbers 1, 2, 3, 4, and 9, and their respective values of change, all of which are indicated above with "(**)"s. (Also, it should be noted that the lone "(nc)" which is seen above indicates that the individual function which involves the self-sibling/cousin 9 is a no change function, as is the case in relation to the collective "X1" multiplication function which was examined a moment ago, and as will be the case in relation to all of the collective functions which will be seen in this chapter.)

Next, we will examine the collective "X3" multiplication function, which is shown below.

$$1X3=\text{up (2)} \text{ to } 3$$
$$2X3=\text{up (4)} \text{ to } 6$$
$$3X3=\text{up (6)} \text{ to } 9 \text{ (fg)}$$
$$4X3=\text{down (1)} \text{ to } 3 \text{ (**)}$$
$$5X3=\text{up (1)} \text{ to } 6$$
$$6X3=\text{up (3)} \text{ to } 9 \text{ (fg)}$$
$$7X3=\text{down (4)} \text{ to } 3 \text{ (*) (**)}$$
$$8X3=\text{down (2)} \text{ to } 6 \text{ (**)}$$
$$9X3=\text{same (0)} 9 \text{ (nc) (fg)}$$

Above, we can see that in relation to the collective "X3" multiplication function, the changes in the values of the numbers display a palindromic form of mirroring between one another, with this palindromic form of mirroring also involving an instance of sibling/cousin mirroring, in that the four topmost changes involve the values of 2,4,6, and 1, which run from top to middle, and the four bottommost changes involve the values of 2,4,3, and 1, which run from bottom to middle, and disregarding the 3 and the 6, which display sibling/cousin mirroring between one another, these two orientationally mirrored patterns display matching between one another. This palindromic form of mirroring is highlighted here, with the various instances of concentric matching all highlighted arbitrarily in green, and the lone instance of concentric sibling/cousin mirroring highlighted arbitrarily in red: 24611342. (This palindromic form of mirroring is also maintained by the functions "9X3" and "0X3", as is the case in relation to the collective "X2" multiplication function which was examined a moment ago, and as will be the case in relation to all of the collective functions which will be examined in this chapter.) While it should be noted that the instance of sibling/cousin mirroring which is involved in this palindromic form of mirroring arises due to the various forms of sibling/cousin mirroring which

are displayed between the original numbers which are members of the 3,6,9 family group and their respective values of change, in that the 3 raises by its sibling/cousin the 6, the 6 raises by its sibling/cousin the 3, and the 9 involves no change, which qualifies as an instance self-sibling/cousin mirroring, as its value of change involves the self-sibling/cousin 0. (It should also be noted that in this case, all three of the 3,6,9 family group members yield non-condensed products which condense to the 9.) While we can also see above that there are instances of family group matching displayed between the original numbers which are 3,6,9 family group members and the condensed values of the products which they yield, all of which is indicated with purple highlighting, as well as the designations of "(fg)". Also, the "(*)" which is seen above indicates the one instance of cousin mirroring which is displayed between the original numbers and their respective values of change, in that the original number 7 drops by its cousin the 4, and the "(**)"s which are seen above indicate that the original numbers 4, 7, and 8 all maintain the same family group as their respective values of change, which is not the case in relation to any of the other non-3,6,9 family group member original numbers.

Next, we will examine the collective "X4" multiplication function, which is shown below.

$$1X4 = \text{up (3)} \text{ to } 4 \text{ (fg) (*)}$$
$$2X4 = \text{up (6)} \text{ to } 8 \text{ (fg) (*)}$$
$$3X4 = \text{same (0)} 3 \text{ (nc) (fg) (*)}$$
$$4X4 = \text{up (3)} \text{ to } 7 \text{ (fg) (*)}$$
$$5X4 = \text{down (3)} \text{ to } 2 \text{ (fg) (*)}$$
$$6X4 = \text{same (0)} 6 \text{ (nc) (fg) (*)}$$
$$7X4 = \text{down (6)} \text{ to } 1 \text{ (fg) (*)}$$
$$8X4 = \text{down (3)} \text{ to } 5 \text{ (fg) (*)}$$
$$9X4 = \text{same (0)} 9 \text{ (nc) (fg)}$$

Above, we can see that in relation to the collective "X4" multiplication function, the changes in the values of the numbers display a palindromic form of mirroring, as is shown here: 36033063. Also, we can see that these changes in value display a concentric form of mirroring, in that the pair of functions which involve original numbers which are members of the 1/8 sibling/self-cousins involve a raise and a drop, respectively, as is also the case in relation to the pair of functions which involve original numbers which are members of 2/7 siblings, as well as the pair of functions which involve original numbers which are members of 4/5 siblings. (It should also be noted that in this case, the functions which involve the original numbers 3, 6, and 9 all involve no change in value, which means that in relation to the collective "X4" multiplication function, the three individual functions which involve original numbers which are members of the 3,6,9 family group are all no change functions.) While we can also see that in relation to the collective "X4" multiplication function, the condensed values of the products which are yielded by the concentrically aligned pairs of functions all involve instances of siblings, in that the condensed values of the products which are yielded by the original numbers 1 and 8 involve the members of the 4/5 siblings, both of which are indicated with "(*)"s, the condensed values of the products which are yielded by the concentrically aligned pair of functions which is oriented one step inwards from there involve the members of the 1/8 sibling/self-cousins, both of which are indicated with "(*)"s, the condensed values of the products which are yielded by the concentrically aligned pair of functions which is oriented one concentric step inwards from there involve the members of the 3/6 sibling/cousins, both of which are indicated with "(*)"s, and the condensed values of the products which are yielded by the concentrically aligned pair of functions which is oriented one step inwards from there involve the members of the 2/7 siblings, both of which are indicated with "(*)"s. (This

concentric form of sibling mirroring is also displayed in relation to the function which involves the original number 9, as the function "9X4" yields a non-condensed product which condenses to the 9, and this condensed value of 9 displays self-sibling/cousin mirroring in relation to the condensed value of the product which is yielded by the function "0X4", which is not included in the chart which is seen above.) Also, we can see in the chart which is shown above that there are instances of cousin mirroring displayed between the original numbers 4 and 5 and the condensed values of the products which they yield (both of which are highlighted in blue), in that the original number 4 yields a non-condensed product which condenses to the 7, and the original number 5 yields a non-condensed product which condenses to the 2. While we can also see that the original numbers 1, 2, 3, 6, 7, 8, and 9 all display family group matching in relation to the condensed values of the products which they yield, all of which is indicated with "(fg)"s. (The two previously established instances of cousin mirroring can also be considered to be instances of family group matching, as is indicated above with "(fg)"s.)

Next, we will examine the collective "X5" multiplication function, which is shown below.

<div align="center">

1X5=up (4) to 5 (*) (fg)
2X5=down (1) to 1 (*)
3X5=up (3) to 6 (*) (s/c)
4X5=down (2) to 2 (*)
5X5=up (2) to 7 (*) (fg)
6X5=down (3) to 3 (*) (s/c)
7X5=up (1) to 8 (*) (fg)
8X5=down (4) to 4 (*)
9X5=same (0) 9 (nc) (s-s/c)

</div>

Above, we can see that in relation to the collective "X5" multiplication function, the changes in the values of the numbers involve alternating raises and drops, with the exception of the no change function, which obviously involves no change in the value of the number. Also,we can see in the chart which is shown above that the changes in the values of the numbers display a palindromic form of mirroring, as is shown here: 41322314. While we can also see that in this case, the 3,6,9 family group members all display unique forms of sibling/cousin mirroring in relation to the condensed values of the products which they yield, in that the 3 yields a non-condensed product which condenses to its sibling/cousin the 6, the 6 yields a non-condensed product which condenses to its sibling/cousin the 3, and the self-sibling/cousin 9 yields a non-condensed product which condenses to the self-sibling/cousin 9, all of which is indicated above with blue highlighting, as well as the designations of "(s/c)" in relation to the two instances of sibling/cousin mirroring and "(s-s/c)" in relation to the lone instance of self-sibling/cousin mirroring. While we can also see above that in relation to the collective "X5" multiplication function, the condensed values of the products which are yielded by the concentrically aligned pairs of functions all involve instances of siblings, in that the condensed values of the products which are yielded by the original numbers 1 and 8 involve the members of the 4/5 siblings, both of which are indicated with "(*)"s, the condensed values of the products which are yielded by the concentrically aligned pair of functions which is oriented one step inwards from there involve the members of the 1/8 sibling/self-cousins, both of which are indicated with "(*)"s, the condensed values of the products which are yielded by the concentrically aligned pair of functions which is oriented one concentric step inwards from there involve the members of the 3/6 sibling/cousins, both of which are indicated with "(*)"s, and the condensed values of the products which are yielded by the concentrically aligned pair of functions which is oriented one step inwards from there involve the members of the 2/7

siblings, both of which are indicated with "(*)"s. (As is the case in relation to the collective "X4" multiplication function which was examined a moment ago, this concentric form of sibling mirroring is also displayed in relation to the function which involves the original number 9, as the function "9X5" yields a non-condensed value which condenses to the 9, and this condensed value of 9 displays self-sibling/cousin mirroring in relation to the condensed value of the product which is yielded by the function "0X5", which is not included in the chart which is shown above.) While we can also see above that there are instances of family group matching displayed between the original numbers 1, 5, and 7 and their respective values of change, all of which are indicated with "(fg)"s.

Before we move on to the next of these collective multiplication functions, it should be noted that the collective "X5" multiplication function displays a form of sibling mirroring in relation to the collective "X4" multiplication function, as will be explained in the endnotes of this chapter.

Next, we will examine the collective "X6" multiplication function, which is shown below.

1X6=up (5) to 6
2X6=up (1) to 3
3X6=up (6) to 9 (fg)
4X6=up (2) to 6
5X6=down (2) to 3 (*) (**)
6X6=up (3) to 9 (fg)
7X6=down (1) to 6 (**)
8X6=down (5) to 3 (**)
9X6=same (0) 9 (nc) (fg)

Above, we can see that in relation to the collective "X6" multiplication function, the changes in the values of the numbers display a palindromic form of mirroring, with this palindromic form of mirroring also involving an instance of sibling/cousin mirroring, in that the four topmost changes involve the values of 5,1,6, and 2, which run from top to middle, and the four bottommost changes involve the values of 5,1,3, and 2, which run from bottom to middle, and disregarding the 6 and the 3, which display sibling/cousin mirroring between one another, these orientationally mirrored patterns display matching between one another. (This palindromic form of mirroring is shown here, with the various instances of concentric matching all highlighted arbitrarily in green, and the lone instance of sibling/cousin mirroring highlighted arbitrarily in red: 51622315.) While it should be noted that the instance of sibling/cousin mirroring which is involved in this palindromic form of mirroring arises due to the various forms of sibling/cousin mirroring which are displayed between the original numbers which are members of the 3,6,9 family group and their respective values of change, in that the 3 raises by its sibling/cousin the 6, the 6 raises by its sibling/cousin the 3, and the 9 involves no change, which qualifies as an instance self-sibling/cousin mirroring, as the value of change involves the self-sibling/cousin 0. (It should also be noted that in this case, all three of the 3,6,9 family group members yield non-condensed products which condense to the 9.) While we can also see above that there are instances of family group matching displayed between the original numbers which are 3,6,9 family group members and the condensed values of the products which they yield, all of which is indicated with purple highlighting, as well as the designations of "(fg)". Also, the "(*)" which is seen above indicates the one instance of cousin mirroring which is displayed between the original numbers and their respective values of change, in that the original number 5 drops by its cousin the 2, and the "(**)"s which are seen above indicate that the original numbers 5, 7, and 8 all maintain the same family

group as their respective values of change, which is not the case in relation to any of the other non-3,6,9 family group member original numbers.

Before we move on to the next of these collective multiplication functions, it should be noted that the overall form of self-mirroring which is displayed by the collective "X6" multiplication function displays various forms of mirroring and matching in relation to the overall form of self-mirroring which is displayed by the collective "X3" multiplication function, as will be explained in the endnotes of this chapter.

Next, we will examine the collective "X7" multiplication function, which is shown below.

1X7=up (6) to 7 (fg) (*)
2X7=up (3) to 5 (fg) (*)
3X7=same (0) 3 (nc) (fg) (*)
4X7=down (3) to 1 (fg) (*)
5X7=up (3) to 8 (fg) (*)
6X7=same (0) 6 (nc) (fg) (*)
7X7=down (3) to 4 (fg) (*)
8X7=down (6) to 2 (fg) (*)
9X7=same (0) 9 (nc) (fg)

Above, we can see that in relation to the collective "X7" multiplication function, the changes in the values of the numbers display a palindromic form of mirroring, as is shown here: 63033036. Also, we can see that these changes in value display a concentric form of mirroring, in that the pair of functions which involve original numbers which are members of the 1/8 sibling/self-cousins involve a raise and a drop, respectively, as is also the case in relation to the pair of functions which involve original numbers which are members of 2/7 siblings (while in this case, the pair of functions which involve original numbers which are members of 4/5 siblings involve a drop and a raise, respectively). (It should also be noted that in this case, the functions which involve the original numbers 3, 6, and 9 all involve no change in value, which means that in relation to the collective "X7" multiplication function, the three individual functions which involve original numbers which are members of the 3,6,9 family group are all no change functions.) While we can also see above that in relation to the collective "X7" multiplication function, the condensed values of the products which are yielded by the concentrically aligned pairs of functions all involve instances of siblings, in that the condensed values of the products which are yielded by the original numbers 1 and 8 involve the members of the 2/7 siblings, both of which are indicated with "(*)"s, the condensed values of the products which are yielded by the concentrically aligned pair of functions which is oriented one step inwards from there involve the members of the 4/5 siblings, both of which are indicated with "(*)"s, the condensed values of the products which are yielded by the concentrically aligned pair of functions which is oriented one concentric step inwards from there involve the members of the 3/6 sibling/cousins, both of which are indicated with "(*)"s, and the condensed values of the products which are yielded by the concentrically aligned pair of functions which is oriented one step inwards from there involve the members of the 1/8 sibling/self cousins, both of which are indicated with "(*)"s. (As is the case in relation to the collective "X4" multiplication function and the collective "X5" multiplication function, this concentric form of sibling mirroring is also displayed in relation to the function which involves the original number 9, as the function "9X7" yields a non-condensed value which condenses to the 9, and this condensed value of 9 displays self-sibling/cousin mirroring in relation to the condensed value of the product which is

yielded by the function "0X7", which is not included in the chart which is shown above.) Also, we can see in the chart which is shown above that there are instances of cousin mirroring displayed between the original numbers 2 and 7 and the condensed values of the products which they yield (both of which are highlighted in blue), in that the original number 2 yields a non-condensed product which condenses to the 5, and the original number 7 yields a non-condensed product which condenses to the 4. While we can also see that the original numbers 1, 3, 4, 5, 6, 8, and 9 all display family group matching in relation to the condensed values of the products which they yield, all of which is indicated with "(fg)"s. (The two previously established instances of cousin mirroring can also be considered to be instances of family group matching, as is indicated above with "(fg)"s.)

Before we move on to the next of these collective multiplication functions, it should be noted that the overall form of self-mirroring which is displayed by the collective "X7" multiplication function displays various forms of mirroring and matching in relation to the overall form of self-mirroring which is displayed by the collective "X4" multiplication function, as will be explained in the endnotes of this chapter.

Next, we will examine the collective "X8" multiplication function, which is shown below.

1X8=up (7) to 8 (s) (*)
2X8=up (5) to 7 (s) (*)
3X8=up (3) to 6 (s/c) (*)
4X8=up (1) to 5 (s) (*)
5X8=down (1) to 4 (s) (*)
6X8=down (3) to 3 (s/c) (*)
7X8=down (5) to 2 (s) (*)
8X8=down (7) to 1 (s) (*)
9X8=same (0) 9 (nc) (s-s/c)

Above, we can see that in relation to the collective "X8" multiplication function, the changes in the values of the numbers display a simple form of overall mirroring, in that the functions "1X8", "2X8", "3X8", and "4X8" all involve raises, while the functions "5X8", "6X8", "7X8", and "8X8" all involve drops. While we can also see above that in relation to the collective "X8" multiplication function, the changes in the values of the numbers display a palindromic form of mirroring, as is shown here: 75311357. Also, we can see above that the collective "X8" multiplication function displays an overall form of sibling mirroring, in that all nine of these individual functions involve original numbers and products which display sibling mirroring between one another, as is indicated above with blue highlighting, as well as the designations of "(s)" in relation to the instances of siblings, "(s/c)" in relation to the instances of sibling/cousins, and "(s-s/c)" in relation to the lone instance of self-sibling/cousins. While we can also see above that in relation to the collective "X8" multiplication function, the condensed values of the products which are yielded by the concentrically aligned pairs of functions all involve instances of siblings, in that the condensed values of the products which are yielded by the original numbers 1 and 8 involve the members of the 1/8 sibling/self-cousins, both of which are indicated with "(*)"s, the condensed values of the products which are yielded by the concentrically aligned pair of functions which is oriented one step inwards from there involve the members of the 2/7 siblings, both of which are indicated with "(*)"s, the condensed values of the products which are yielded by the concentrically aligned pair of functions which is oriented one concentric step inwards from there involve the members of the 3/6 sibling/cousins, both of which are

indicated with "(*)"s, and the condensed values of the products which are yielded by the concentrically aligned pair of functions which is oriented one step inwards from there involve the members of the 4/5 siblings, both of which are indicated with "(*)"s. (As is the case in relation to the collective "X4" multiplication function, the collective "X5" multiplication function and the collective "X7" multiplication function, this concentric form of sibling mirroring is also displayed in relation to the function which involves the original number 9, as the function "9X8" yields a non-condensed value which condenses to the 9, and this condensed value of 9 displays self-sibling/cousin mirroring in relation to the condensed value of the product which is yielded by the function "0X8", which is not included in the chart which is shown above.)

Next, we will examine the collective "X9" multiplication function, which is shown below.

$$1X9=\text{up (8)} \text{ to 9 (*)}$$
$$2X9=\text{up (7)} \text{ to 9 (*)}$$
$$3X9=\text{up (6)} \text{ to 9 (fg) (s/c) (*)}$$
$$4X9=\text{up (5)} \text{ to 9 (*)}$$
$$5X9=\text{up (4)} \text{ to 9 (*)}$$
$$6X9=\text{up (3)} \text{ to 9 (fg) (s/c) (*)}$$
$$7X9=\text{up (2)} \text{ to 9 (*)}$$
$$8X9=\text{up (1)} \text{ to 9 (*)}$$
$$9X9=\text{same (0) 9 (nc) (fg) (s-s/c) (*)}$$

Above, we can see that the collective "X9" multiplication function displays a behavioral form of self-matching, in that the changes in the values of the numbers exclusively involve raises, with the exception of the function "9X9", which is a no change function. Also, we can see above that the collective "X9" multiplication function displays a unique form of overall sibling mirroring which involves the original numbers and their respective values of change, in that the 1 raises by its sibling the 8, the 2 raises by its sibling the 7, the 3 raises by its sibling/cousin the 6, the 4 raises by its sibling the 5, the 5 raises by its sibling the 4, the 6 raises by its sibling/cousin the 3, the 7 raises by its sibling the 2, the 8 raises by its sibling the 1, and the self-sibling/cousin 9 involves no change in value, with this lack of change involving a value of 0, which condenses to the self-sibling/cousin 9, all of which is indicated above with "(*)"s, as well as the designations of "(s/c)" in relation to the two instances of sibling/cousin mirroring, and "(s-s/c)" in relation to the lone instance of self-sibling/cousin mirroring. While we can also see above that in relation to the collective "X9" multiplication function, the three individual functions which involve original numbers which are members of the 3,6,9 family group display family group matching between their original numbers and their respective products, as is indicated above with purple highlighting, as well as the designation of "(fg)". Also, we can see above that the collective "X9" multiplication function displays an overall form of matching, in that it involves a series of products which condense exclusively to the 9. This exclusivity of products which condense to the 9 is due to the attractive characteristic which the 9 displays in relation to the (X / /) sibling functions, which has been seen briefly in previous chapters, and will be explained more thoroughly in upcoming Standard Model of physics themed chapters.

That brings this examination of the collective multiplication functions of the base numbers, and therefore this section, to a close.

<center>*********</center>

Next, we will examine the various forms of self-mirroring which are displayed by each of the collective division functions of the base numbers. These nine collective division functions are similar to the nine collective multiplication functions which were examined in the first section of this chapter, only they involve the division function, as opposed to the multiplication function. The same general forms of mirroring and matching which are displayed by the collective multiplication functions are also displayed by these collective division functions, which is due to the previously established concept of reciprocal mirroring, in that each of these collective division functions displays matching in relation to one of the previous collective multiplication functions, examples of which will be seen and explained as we progress. (These collective division functions will not contain any of the previous designations, such as "(*)", "(fg)", "(s/c)", etc., as we have already determined all of those specifics in relation to collective multiplication functions.)

We will start with the collective "/1" division function, which is shown below.

$$1/1=\text{same (0)} \ 1$$
$$2/1=\text{same (0)} \ 2$$
$$3/1=\text{same (0)} \ 3$$
$$4/1=\text{same (0)} \ 4$$
$$5/1=\text{same (0)} \ 5$$
$$6/1=\text{same (0)} \ 6$$
$$7/1=\text{same (0)} \ 7$$
$$8/1=\text{same (0)} \ 8$$
$$9/1=\text{same (0)} \ 9$$

Above, we can see that the collective "/1" division function involves a very simple form of overall behavior, in that the division of each of the base numbers by the 1 causes the same type of change, this being no change at all. (This overall lack of change qualifies the collective "X1" multiplication function as a no change collective function, as is the case in relation to the collective "X1" multiplication function which was examined in the previous section. This means that the collective "/1" division function displays matching in relation to the collective "X1" multiplication function, as will be explained in the final section of this chapter.)

Next, we will examine the collective "/2" division function, which is shown below.

$$1/2=\text{up (4)} \ \text{to} \ 5$$
$$2/2=\text{down (1)} \ \text{to} \ 1$$
$$3/2=\text{up (3)} \ \text{to} \ 6$$
$$4/2=\text{down (2)} \ \text{to} \ 2$$
$$5/2=\text{up (2)} \ \text{to} \ 7$$
$$6/2=\text{down (3)} \ \text{to} \ 3$$
$$7/2=\text{up (1)} \ \text{to} \ 8$$
$$8/2=\text{down (4)} \ \text{to} \ 4$$
$$9/2=\text{same (0)} \ 9$$

Above, we can see that the collective "/2" division function displays matching in relation to the collective "X5" multiplication function. Therefore, we can simply refer back to the collective "X5" multiplication function for the specifics of the self-mirroring which is displayed by the collective "/2" division function, and move along to the next of these collective division functions. (Again, the various forms of mirroring and matching which are displayed between collective division functions and related collective multiplication functions will be examined in the third section of this chapter.)

At this point, it should be mentioned that we will be disregarding the collective division functions which involve the 3, the 6, the 7, and the 9, which is due to the fact that the "/3" division function, the "/6" division function, the "/7" division function, and the "/9" division function are all invalid functions, each of which yields infinitely repeating decimal number quotients which would be of no immediate use to us here.

Next, we will examine the collective "/4" division function, which is shown below.

$$1/4 = \text{up (6) to } 7$$
$$2/4 = \text{up (3) to } 5$$
$$3/4 = \text{same (0) } 3$$
$$4/4 = \text{down (3) to } 1$$
$$5/4 = \text{up (3) to } 8$$
$$6/4 = \text{same (0) } 6$$
$$7/4 = \text{down (3) to } 4$$
$$8/4 = \text{down (6) to } 2$$
$$9/4 = \text{same (0) } 9$$

Above, we can see that the collective "/4" division function displays matching in relation to the collective "X7" multiplication function. Therefore, we can simply refer back to the collective "X7" multiplication function for the specifics of the self-mirroring which is displayed by the collective "/4" division function, and move along to the next of these collective division functions.

Next, we will examine the collective /"5" division function, which is shown below.

$$1/5 = \text{up (1) to } 2$$
$$2/5 = \text{up (2) to } 4$$
$$3/5 = \text{up (3) to } 6$$
$$4/5 = \text{up (4) to } 8$$
$$5/5 = \text{down (4) to } 1$$
$$6/5 = \text{down (3) to } 3$$
$$7/5 = \text{down (2) to } 5$$
$$8/5 = \text{down (1) to } 7$$
$$9/5 = \text{same (0) } 9$$

Above, we can see that the collective "/5" division function displays matching in relation to the collective "X2" multiplication function. Therefore, we can simply refer back to the collective "X2"

multiplication function for the specifics of the self-mirroring which is displayed by the collective "/5" division function, and move along to the next of these collective division functions.

Next, disregarding the collective "/6" division function and the collective "/7" division function for reasons which were explained earlier, we will examine the collective "/8" division function, which is shown below.

$$1/8=\text{up (7) to } 8$$
$$2/8=\text{up (5) to } 7$$
$$3/8=\text{up (3) to } 6$$
$$4/8=\text{up (1) to } 5$$
$$5/8=\text{down (1) to } 4$$
$$6/8=\text{down (3) to } 3$$
$$7/8=\text{down (5) to } 2$$
$$8/8=\text{down (7) to } 1$$
$$9/8=\text{same (0) } 9$$

Above, we can see that the collective "/8" division function displays matching in relation to the collective "X8" multiplication function. Therefore, we can simply refer back to the collective "X8" multiplication function for the specifics of the self-mirroring which is displayed by the collective "/8" division function.

That brings this examination of five of the nine collective multiplication functions of the base numbers, and therefore this section, to a close.

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Next, we will compare the various pairs of numerically related collective multiplication functions to pairs of numerically related collective division functions, in order to determine the forms of mirroring and matching which these pairs of numerically related collective functions display between one another, all of which will be shown and explained throughout this section. (While the forms of mirroring and matching which are displayed between various instances of numerically related collective multiplication functions will be examined in the endnotes of this chapter, as will those which are displayed between various instances of numerically related collective division functions.)

We will start by comparing the 1/8 sibling/self-cousin collective multiplication functions to the 1/8 sibling/self-cousin collective division functions, as is shown below.

(It should be mentioned at this point that the collective multiplication functions and collective division functions which will be seen in this section will not contain any of the designations such as "(*)", "(fg)", "(s/c)", etc., as the various forms of self-mirroring which are displayed by each of the collective functions are irrelevant in relation to the forms of mirroring and matching which we will be examining in this section.)

collective X1 multiplication function

1X1=same (0) 1
2X1=same (0) 2
3X1=same (0) 3
4X1=same (0) 4
5X1=same (0) 5
6X1=same (0) 6
7X1=same (0) 7
8X1=same (0) 8
9X1=same (0) 9

collective X8 multiplication function

1X8=up (7) to 8
2X8=up (5) to 7
3X8=up (3) to 6
4X8=up (1) to 5
5X8=down (1) to 4
6X8=down (3) to 3
7X8=down (5) to 2
8X8=down (7) to 1
9X8=same (0) 9

collective /1 division function

1/1=same (0) 1
2/1=same (0) 2
3/1=same (0) 3
4/1=same (0) 4
5/1=same (0) 5
6/1=same (0) 6
7/1=same (0) 7
8/1=same (0) 8
9/1=same (0) 9

collective /8 division function

1/8=up (7) to 8
2/8=up (5) to 7
3/8=up (3) to 6
4/8=up (1) to 5
5/8=down (1) to 4
6/8=down (3) to 3
7/8=down (5) to 2
8/8=down (7) to 1
9/8=same (0) 9

Above, we can see that these two pairs of collective functions display matching between one another, in that the leftmost of the top pair of collective functions, this being the collective "X1" multiplication function, displays matching in relation to the leftmost of the bottom pair of collective functions, this being the collective "/1" division function, and the rightmost of the top pair of collective functions, this being the collective "X8" multiplication function, displays matching in relation to the rightmost of the bottom pair of collective functions, this being the collective "/8" division function.

Next, we will compare the 2/7 sibling collective multiplication functions to the 4/5 sibling collective division functions, as is shown below (through the page break).

collective X2 multiplication function

1X2=up (1) to 2
2X2=up (2) to 4
3X2=up (3) to 6
4X2=up (4) to 8
5X2=down (4) to 1
6X2=down (3) to 3
7X2=down (2) to 5
8X2=down (1) to 7
9X2=same (0) 9

collective X7 multiplication function

1X7=up (6) to 7
2X7=up (3) to 5
3X7=same (0) 3
4X7=down (3) to 1
5X7=up (3) to 8
6X7=same (0) 6
7X7=down (3) to 4
8X7=down (6) to 2
9X7=same (0) 9

collective /4 division function

1/4=up (6) to 7
2/4=up (3) to 5
3/4=same (0) 3
4/4=down (3) to 1
5/4=up (3) to 8
6/4=same (0) 6
7/4=down (3) to 4
8/4=down (6) to 2
9/4=same (0) 9

collective /5 division function

1/5=up (1) to 2
2/5=up (2) to 4
3/5=up (3) to 6
4/5=up (4) to 8
5/5=down (4) to 1
6/5=down (3) to 3
7/5=down (2) to 5
8/5=down (1) to 7
9/5=same (0) 9

Above, we can see that these two pairs of collective functions display an overall form of mirroring between one another, in that the leftmost of the top pair of collective functions, this being the collective "X2" multiplication function, displays matching in relation to the rightmost of the bottom pair of collective functions, this being the collective "/5" division function, and the rightmost of the top pair of collective functions, this being the collective "X7" multiplication function displays matching in relation to the leftmost of the bottom pair of collective functions, this being the collective "/4" division function.

(The specific form of mirroring which is seen above will be refered to as twisted mirroring, with this being a concept which will be explained in "Quantum Mathematics and the Standard Model of Physics Part Seven: 'Mirroring between Collective Functions' ".)

Next, we will compare the 2/5 cousin collective multiplication functions to the 2/5 cousin collective division functions, as is shown below (through the page break).

collective X2 multiplication function

1X2=up (1) to 2
2X2=up (2) to 4
3X2=up (3) to 6
4X2=up (4) to 8
5X2=down (4) to 1
6X2=down (3) to 3
7X2=down (2) to 5
8X2=down (1) to 7
9X2=same (0) 9

collective X5 multiplication function

1X5=up (4) to 5
2X5=down (1) to 1
3X5=up (3) to 6
4X5=down (2)
5X5=up (2) to 7
6X5=down (3) to 3
7X5=up (1) to 8
8X5=down (4) to 4
9X5=same (0) 9

collective /2 division function
    1/2=up (4) to 5
    2/2=down (1) to 1
    3/2=up (3) to 6
    4/2=down (2) to 2
    5/2=up (2) to 7
    6/2=down (3) to 3
    7/2=up (1) to 8
    8/2=down (4) to 4
    9/2=same (0) 9

collective /5 division function
    1/5=up (1) to 2
    2/5=up (2) to 4
    3/5=up (3) to 6
    4/5=up (4) to 8
    5/5=down (4) to 1
    6/5=down (3) to 3
    7/5=down (2) to 5
    8/5=down (1) to 7
    9/5=same (0) 9

Above, we can see that these two pairs of collective functions display twisted mirroring between one another, in that the leftmost of the top pair of collective functions, this being the collective "X2" multiplication function, displays matching in relation to the rightmost of the bottom pair of collective functions, this being the collective "/5" division function, and the rightmost of the top pair of collective functions, this being the collective "X5" multiplication function, displays matching in relation to the leftmost of the bottom pair of collective functions, this being the collective "/2" division function.

Next, we will compare the 4/5 sibling collective multiplication functions to the 2/7 sibling collective division functions, as is shown (incompletely) below. (To clarify, the "**??????**"s which are seen below indicate the individual invalid "/7" division functions, as is explained below the chart.)

collective X4 multiplication function
    1X4=up (3) to 4
    2X4=up (6) to 8
    3X4=same (0) 3
    4X4=up (3) to 7
    5X4=down (3) to 2
    6X4=same (0) 6
    7X4=down (6) to 1
    8X4=down (3) to 5
    9X4=same (0) 9

collective X5 multiplication function
    1X5=up (4) to 5
    2X5=down (1) to 1
    3X5=up (3) to 6
    4X5=down (2) to 2
    5X5=up (2) to 7
    6X5=down (3) to 3
    7X5=up (1) to 8
    8X5=down (4) to 4
    9X5=same (0) 9

collective /2 division function
    1/2=up (4) to 5
    2/2=down (1) to 1
    3/2=up (3) to 6
    4/2=down (2) to 2
    5/2=up (2) to 7
    6/2=down (3) to 3
    7/2=up (1) to 8
    8/2=down (4) to 4
    9/2=same (0) 9

collective /7 division function
    ?????????
    ?????????
    ?????????
    ?????????
    ?????????
    ?????????
    ?????????
    ?????????
    ?????????

Above, we can see that the rightmost of the top pair of collective functions, this being the collective "X5" multiplication function, displays matching in relation to the leftmost of the bottom pair of collective functions, this being the collective "/2" division function. This instance of matching indicates that these two pairs of collective functions likely display twisted mirroring between one another, though unfortunately, due to the individual invalid "/7" division functions, we cannot currently determine if there is any matching or mirroring displayed between the leftmost of the top pair of collective functions, this being the collective "X4" multiplication function, and the rightmost of the bottom pair of collective functions, this being the currently invalid collective "/7" division function. Therefore, while we would assume that these two pairs of collective functions display twisted mirroring between one another, without a valid collective "/7" division function, this instance of twisted mirroring cannot be confirmed at this point. (The matching which is displayed between the collective "/7" division function and the collective "X4" multiplication function will eventually be confirmed in "Chapter Eight: Solving the Invalid Functions".)

Unfortunately, the invalid "/7" division functions will also complicate our comparison of the 4/7 cousin collective multiplication functions in relation to the 4/7 cousin collective division functions, as is shown incompletely below.

collective X4 multiplication function	collective X7 multiplication function
1X4=up (3) to 4	1X7=up (6) to 7
2X4=up (6) to 8	2X7=up (3) to 5
3X4=same (0) 3	3X7=same (0) 3
4X4=up (3) to 7	4X7=down (3) to 1
5X4=down (3) to 2	5X7=up (3) to 8
6X4=same (0) 6	6X7=same (0) 6
7X4=down (6) to 1	7X7=down (3) to 4
8X4=down (3) to 5	8X7=down (6) to 2
9X4=same (0) 9	9X7=same (0) 9

collective /4 division function	collective /7 division function
1/4=up (6) to 7	?????????
2/4=up (3) to 5	?????????
3/4=same (0) 3	?????????
4/4=down (3) to 1	?????????
5/4=up (3) to 8	?????????
6/4=same (0) 6	?????????
7/4=down (3) to 4	?????????
8/4=down (6) to 2	?????????
9/4=same (0) 9	?????????

Above, we can see that the rightmost of the top pair of collective functions, this being the collective "X7" multiplication function, displays matching in relation to the leftmost of the bottom pair of collective functions, this being the collective "/4" division function. This instance of matching indicates that these two pairs of collective functions likely display twisted mirroring between one another,

though unfortunately, due to the individual invalid "/7" division functions, we cannot currently determine if there is any matching or mirroring displayed between the leftmost of the top pair of collective functions, this being the collective "X4" multiplication function, and the rightmost of the bottom pair of collective functions, this being the currently invalid collective "/7" division function. Therefore, while we would assume that these two pairs of collective functions display twisted mirroring between one another, without a valid collective "/7" division function, this instance of twisted mirroring cannot be confirmed.

As has been mentioned previously, the invalid functions will all be solved in "Chapter Eight: Solving the Invalid Functions". Furthermore, in that chapter, we will use the unique forms of mirroring which are displayed between instances of collective multiplication functions and collective division functions which are related via cousin numbers in order to solve the various invalid functions.

That brings this section, and therefore this Standard Model of physics themed chapter to a close, with the exception of the endnotes, which contain an examination of the various forms of mirroring and matching which are displayed between numerically related instances of collective multiplication functions, as well as those which are displayed between numerically related instances of collective division functions.

Endnotes

In these endnotes, we will compare the various pairs of numerically related collective multiplication functions and collective division functions (individually), starting with an examination of the cousin collective multiplication functions, and the various instances of mirroring and matching which they display between one another, all of which is shown and explained below. (To clarify, cousin collective multiplication functions are the collective multiplication functions of pairs of cousin numbers.)

To start, we will compare the 1/8 sibling/self-cousin collective multiplication functions to one another, as is shown below. (It should be mentioned at this point that throughout these examples, the numbers which are shown between the collective functions will be highlighted in the same colors in which they are highlighted within their respective collective functions.)

collective X1 multiplication function	mirroring	collective X8 multiplication function
1X1=same (0) 1	(products 1/8 siblings)	1X8=up (7) to 8
2X1=same (0) 2	(products 2/7 siblings)	2X8=up (5) to 7
3X1=same (0) 3	(products 3/6 siblings)	3X8=up (3) to 6
4X1=same (0) 4	(products 4/5 siblings)	4X8=up (1) to 5
5X1=same (0) 5	(products 5/4 siblings)	5X8=down (1) to 4
6X1=same (0) 6	(products 6/3 siblings)	6X8=down (3) to 3
7X1=same (0) 7	(products 7/2 siblings)	7X8=down (5) to 2
8X1=same (0) 8	(products 8/1 siblings)	8X8=down (7) to 1
9X1=same (0) 9	(products 9/9 siblings)	9X8=same (0) 9

Above, we can see that the 1/8 sibling/self-cousin collective multiplication functions display a form of sibling mirroring between one another, in that the condensed values of the products which are yielded by each of the horizontally aligned pairs of functions display sibling mirroring between one another, as is indicated between the two collective functions. (This overall instance of sibling mirroring is the only form of mirroring which is displayed between the 1/8 sibling/self-cousin collective multiplication functions.)

Next, we will compare the 2/5 cousin collective multiplication functions to one another, as is shown below.

collective X2 multiplication function	mirroring	collective X5 multiplication function
1X2=up (1) to 2	(2/5 cousins,1/4 family group)	1X5=up (4) to 5
2X2=up (2) to 4	(4/1 family group)	2X5=down (1) to 1
3X2=up (3) to 6	(matching functions)	3X5=up (3) to 6
4X2=up (4) to 8	(8/2 family group)	4X5=down (2) to 2
5X2=down (4) to 1	(1/7 family group)	5X5=up (2) to 7
6X2=down (3) to 3	(matching functions)	6X5=down (3) to 3
7X2=down (2) to 5	(5/8 family group)	7X5=up (1) to 8
8X2=down (1) to 7	(7/4 cousins,1/4 family group)	8X5=down (4) to 4
9X2=same (0) 9	(matching no change functions)	9X5=same (0) 9

Above, we can see that the 2/5 cousin collective multiplication functions display various forms of mirroring and matching between one another. In relation to the individual functions which involve original numbers which are members of the 1/8 sibling/self-cousins, we can see that the changes in the values of the numbers display family group matching between themselves as well as between one another, in that the pair of functions which involve the original number 1 involve values of change which maintain the 1,4,7 family group, as do the pair of functions which involve the original number 8. While we can also see that the condensed values of the products which these functions yield display cousin mirroring between themselves as well as between one another, in that the pair of functions which involve the original number 1 yield products whose condensed values involve an instance of the 2/5 cousins, and the pair of functions which involve the original number 8 yield products whose condensed values involve an instance of the 4/7 cousins. Also, we can see above that the functions which involve the original numbers 2, 4, 5, 7, and 8 all yield products whose condensed values display family group matching between one another (individually), in that the pair of functions which involve the original number 2 yield products whose condensed values maintain the 1,4,7 family group, as do the pairs of functions which involve the original numbers 5 and 8, and the pair of functions which involve the original number 4 yield products whose condensed values maintain the 2,5,8 family group, as does the pair of functions which involves the original number 7. While we can also see above that each of the three pairs of functions which involve original numbers which are 3,6,9 family group members displays matching between one another (individually).

Next, we will compare the 3/6 sibling/cousin collective multiplication functions to one another, as is shown below.

collective X3 multiplication function	mirroring	collective X6 multiplication function
1X3=up (2) to 3	(2/5 cousins,3/6 siblings)	1X6=up (5) to 6
2X3=up (4) to 6	(4/1 family group,6/3 siblings)	2X6=up (1) to 3
3X3=up (6) to 9	(matching functions)	3X6=up (6) to 9
4X3=down (1) to 3	(3/6 siblings)	4X6=up (2) to 6
5X3=up (1) to 6	(6/3 siblings)	5X6=down (2) to 3
6X3=up (3) to 9	(matching functions)	6X6=up (3) to 9
7X3=down (4) to 3	(4/1 family group,3/6 siblings)	7X6=down (1) to 6
8X3=down (2) to 6	(2/5 cousins,6/3 siblings)	8X6=down (5) to 3
9X3=same (0) 9	(matching no change functions)	9X6=same (0) 9

Above, we can see that the 3/6 sibling/cousin collective multiplication functions display various forms of mirroring and matching between one another, one of which involves the instances of sibling/cousin mirroring which are displayed between the condensed values of the products which are yielded by the horizontally aligned pairs of functions, all of which involve instances of the 3/6 sibling/cousins, with the exception of the pairs of functions which involve original numbers which are members of the 3,6,9 family group, each of which yields products which condense to a pair of self-sibling/cousin 9's. (The fact that the products which are yielded by the individual functions which are seen above condense exclusively to members of the 3,6,9 family group indicates the attractive quality which the 3/6 sibling/cousins display in relation to the (X / /) sibling functions, which will be explained in upcoming Standard Model of physics themed chapters.) Also, we can see above that the functions which involve original numbers which are members of the 1/8 sibling/self-cousins display cousin mirroring between their values of change, in that the pair of functions which involve the original number 1 involve values of change which involve an instance of the 2/5 cousins, as is also the case in relation to the pair of functions which involve the original number 8. While we can also see above that there is family group matching displayed between the changes in value of the pairs of functions which involve original numbers which are members of the 2/7 siblings, in that the pair of functions which involve the original number 2 involve values of change which maintain the 1,4,7 family group, as is also the case in relation to the pair of functions which involve the original number 7. Also, we can see above that in relation to the 3/6 sibling/cousin collective multiplication functions, each of the three pairs of functions which involve original numbers which are 3,6,9 family group members displays matching between one another (individually), as is also the case in relation to the 2/5 cousin collective multiplication functions.

Next, we will compare the 4/7 cousin collective multiplication functions to one another, as is shown below.

collective X4 multiplication function	mirroring	collective X7 multiplication function
1X4=up (3) to 4	(3/6 siblings,4/7 cousins)	1X7=up (6) to 7
2X4=up (6) to 8	(6/3 siblings,8/5 family group)	2X7=up (3) to 5
3X4=same (0) 3	(matching functions)	3X7=same (0) 3
4X4=up (3) to 7	(3/3 match,7/1 family group)	4X7=down (3) to 1
5X4=down (3) to 2	(3/3 match,2/8 family group)	5X7=up (3) to 8
6X4=same (0) 6	(matching functions)	6X7=same (0) 6
7X4=down (6) to 1	(6/3 siblings,1/4 family group)	7X7=down (3) to 4
8X4=down (3) to 5	(3/6 siblings,5/2 cousins)	8X7=down (6) to 2
9X4=same (0) 9	(matching no change functions)	9X7=same (0) 9

Above, we can see that the 4/7 cousin collective multiplication functions display various forms of mirroring and matching between one another. In relation to the pairs of functions which involve original numbers which are members of the 1/8 sibling/self-cousins and the 2/7 siblings, the horizontally aligned values of change display sibling/cousin mirroring between one another, in that the pair of functions which involve the original number 1 involve values of change which involve an instance of the 3/6 sibling/cousins, as is also the case in relation to the pairs of functions which involve the original numbers 2, 7, and 8. Also, we can see above that the functions which involve original numbers which are members of the 1/8 sibling/self-cousins yield products whose condensed values display cousin mirroring between one another, in that the pair of functions which involve the original number 1 yield products which condense to an instance of the 4/7 cousins, and the pair of functions which involve the original number 8 yield products which condense to an instance of the 2/5 cousins. While we can also see above that the pair of functions which involve original numbers which are members of the 2/7 siblings yield products whose condensed values display family group matching between one another, as is also the case in relation to the pair of functions which involve original numbers which are members of the 4/5 siblings. Also, we can see above that in relation to the 4/7 cousin collective multiplication functions, each of the three pairs of functions which involve original numbers which are 3,6,9 family group members displays matching between one another (individually), as is also the case in relation to the 3/6 sibling/cousin collective multiplication functions, as well as the 2/5 cousin collective multiplication functions.

That completes this examination of the cousin collective multiplication functions.

Next, we will examine the sibling collective multiplication functions, and the various instances of mirroring and matching which they display between one another, all of which is shown and explained below. (To clarify, sibling collective multiplication functions are the collective multiplication functions of pairs of sibling numbers.)

We will start by comparing the 2/7 sibling collective multiplication functions to one another, as is shown below. (It should be mentioned that the 1/8 sibling/self-cousin collective multiplication functions and the 3/6 sibling/cousin collective multiplication functions will not be examined as sibling collective multiplication functions, which is due to the fact that these two pairs of collective multiplication functions have already been compared as cousin collective multiplication functions.)

collective X2 multiplication function	mirroring	collective X7 multiplication function
1X2=up (1) to 2	(products 2/7 siblings)	1X7=up (6) to 7
2X2=up (2) to 4	(products 4/5 siblings)	2X7=up (3) to 5
3X2=up (3) to 6	(products 6/3 siblings)	3X7=same (0) 3
4X2=up (4) to 8	(products 8/1 siblings)	4X7=down (3) to 1
5X2=down (4) to 1	(products 1/8 siblings)	5X7=up (3) to 8
6X2=down (3) to 3	(products 3/6 siblings)	6X7=same (0) 6
7X2=down (2) to 5	(products 5/4 siblings)	7X7=down (3) to 4
8X2=down (1) to 7	(products 7/2 siblings)	8X7=down (6) to 2
9X2=same (0) 9	(products 9/9 siblings)	9X7=same (0) 9

Above, we can see that the 2/7 sibling collective multiplication functions display a form of sibling mirroring between one another, in that the condensed values of the products which are yielded by each of the horizontally aligned pairs of functions display sibling mirroring between one another. While we can also see above that the condensed values of these products display an additional form of mirroring,

with this overall form of mirroring involving the fact that the vertical columns of products involve two colored numbers to the right, followed by one colored number to the left.

Next, we will compare the 4/5 sibling collective multiplication functions to one another, as is shown below.

collective X4 multiplication function	mirroring	collective X5 multiplication function
1X4=up (3) to 4	(products 4/5 siblings)	1X5=up (4) to 5
2X4=up (6) to 8	(products 8/1 siblings)	2X5=down (1) to 1
3X4=same (0) 3	(products 3/6 siblings)	3X5=up (3) to 6
4X4=up (3) to 7	(products 7/2 siblings)	4X5=down (2) to 2
5X4=down (3) to 2	(products 2/7 siblings)	5X5=up (2) to 7
6X4=same (0) 6	(products 6/3 siblings)	6X5=down (3) to 3
7X4=down (6) to 1	(products 1/8 siblings)	7X5=up (1) to 8
8X4=down (3) to 5	(products 5/4 siblings)	8X5=down (4) to 4
9X4=same (0) 9	(products 9/9 siblings)	9X5=same (0) 9

Above, we can see that the 4/5 sibling collective multiplication functions display a form of sibling mirroring between one another, in that the condensed values of the products which are yielded by each of the horizontally aligned pairs of functions display sibling mirroring between one another. While we can also see above that the condensed values of these products display an additional form of mirroring, with this overall form of mirroring involving the fact that the vertical columns of products involve two colored numbers to the left, followed by one colored number to the right. (The pattern which is displayed by the highlighted products which are involved in this example displays mirroring in relation to that which is displayed by the highlighted products which are involved in the previous example, in that this pattern involves two colored numbers to the left followed by one colored number to the right, while the pattern which is displayed by the products which are involved in the previous example involves two colored numbers to the right followed by one colored number to the left.)

It should be noted that the sibling mirroring which is displayed between the condensed values of the products which are involved in the previous two examples indicates that both the 2/7 sibling collective multiplication functions and the 4/5 sibling collective multiplication functions display inverted and shifted mirroring between one another, as will be explained in "Quantum Mathematics and the Standard Model of Physics Part Seven: 'Mirroring between Collective Functions' ".

Next, we will compare the collective "X9" multiplication function to the previously ignored collective "X0" multiplication function, as is shown below.

collective X9 multiplication function	matching	collective X0 multiplication function
1X9=up (8) to 9	(8/8 match,9/9 match)	1X0=up (8) to 9
2X9=up (7) to 9	(7/7 match,9/9 match)	2X0=up (7) to 9
3X9=up (6) to 9	(6/6 match,9/9 match)	3X0=up (6) to 9
4X9=up (5) to 9	(5/5 match,9/9 match)	4X0=up (5) to 9
5X9=up (4) to 9	(4/4 match,9/9 match)	5X0=up (4) to 9
6X9=up (3) to 9	(3/3 match,9/9 match)	6X0=up (3) to 9
7X9=up (2) to 9	(2/2 match,9/9 match)	7X0=up (2) to 9
8X9=up (1) to 9	(1/1 match,9/9 match)	8X0=up (1) to 9
9X9=same (0) 9	(0/0 match,9/9 match)	9X0=same (0) 9

Above, we can see that the the 9/0 self-sibling/cousin collective multiplication functions display matching between one another in relation to their values of change, as well as in relation to the condensed values of their products.

That concludes this examination of the various forms of mirroring and matching which are displayed between the cousin collective multiplication functions and the sibling collective multiplication functions of the members of the base set.

Next, we will examine the various forms of mirroring and matching which are displayed between the cousin collective division functions and the sibling collective division functions of the members of the base set (individually), starting with the cousin collective division functions, all of which are shown and explained below.

We will start by comparing the 1/8 sibling/self-cousin collective division functions to one another, as is shown below.

collective /1 division function	mirroring	collective /8 division function
1/1=same (0) 1	(products 1/8 siblings)	1/8=up (7) to 8
2/1=same (0) 2	(products 2/7 siblings)	2/8=up (5) to 7
3/1=same (0) 3	(products 3/6 siblings)	3/8=up (3) to 6
4/1=same (0) 4	(products 4/5 siblings)	4/8=up (1) to 5
5/1=same (0) 5	(products 5/4 siblings)	5/8=down (1) to 4
6/1=same (0) 6	(products 6/3 siblings)	6/8=down (3) to 3
7/1=same (0) 7	(products 7/2 siblings)	7/8=down (5) to 2
8/1=same (0) 8	(products 8/1 siblings)	8/8=down (7) to 1
9/1=same (0) 9	(products 9/9 siblings)	9/8=same (0) 9

Above, we can see that the 1/8 sibling/self-cousin collective division functions display an overall form of sibling mirroring between one another, with this form of sibling mirroring displaying matching in relation to that which is displayed between the 1/8 sibling/self-cousin collective multiplication functions.

Next, we will compare the 2/5 cousin collective division functions to one another, as is shown below.

collective /2 division function	mirroring	collective /5 division function
1/2=up (4) to 5	(5/2 cousins,4/1 family group)	1/5=up (1) to 2
2/2=down (1) to 1	(1/4 family group)	2/5=up (2) to 4
3/2=up (3) to 6	(matching functions)	3/5=up (3) to 6
4/2=down (2) to 2	(2/8 family group)	4/5=up (4) to 8
5/2=up (2) to 7	(7/1 family group)	5/5=down (4) to 1
6/2=down (3) to 3	(matching functions)	6/5=down (3) to 3
7/2=up (1) to 8	(8/5 family group)	7/5=down (2) to 5
8/2=down (4) to 4	(4/7 cousins,4/1 family group)	8/5=down (1) to 7
9/2=same (0) 9	(matching no change functions)	9/5=same (0) 9

Above, we can see that the 2/5 cousin collective division functions display various forms of mirroring and matching between one another, with these forms of mirroring and matching displaying mirroring in relation to those which are displayed between the 2/5 cousin collective multiplication functions. (This overall form of mirroring is due to the twisted mirroring which is displayed between the 2/5 cousin collective multiplication functions and the 2/5 cousin collective division functions, which was noted in the third section of this chapter.)

Next, we will compare the 4/5 sibling collective division functions to one another, as is shown below. (It should be noted that we will not be examining the pairs of collective division functions which involve the collective "/3" division function, the collective "/6" division function, the collective "/7" division function, or the collective "/9" division function, which is due to the fact that all four of these collective division functions involve a series of invalid functions, most of which yield infinitely repeating decimal number quotients which would be of no immediate use to us.)

collective /4 division function	mirroring	collective /5 division function
1/4=up (6) to 7	(quotients 7/2 siblings)	1/5=up (1) to 2
2/4=up (3) to 5	(quotients 5/4 siblings)	2/5=up (2) to 4
3/4=same (0) 3	(quotients 3/6 siblings)	3/5=up (3) to 6
4/4=down (3) to 1	(quotients 1/8 siblings)	4/5=up (4) to 8
5/4=up (3) to 8	(quotients 8/1 siblings)	5/5=down (4) to 1
6/4=same (0) 6	(quotients 6/3 siblings)	6/5=down (3) to 3
7/4=down (3) to 4	(quotients 4/5 siblings)	7/5=down (2) to 5
8/4=down (6) to 2	(quotients 2/7 siblings)	8/5=down (1) to 7
9/4=same (0) 9	(quotients 9/9 siblings)	9/5=same (0) 9

Above, we can see that the 4/5 sibling collective division functions display an overall form of sibling mirroring between one another, with this overall form of sibling mirroring displaying mirroring in relation to that which is displayed between the 2/7 sibling collective multiplication functions. (This overall form of mirroring is due to the twisted mirroring which is displayed between the 4/5 sibling collective division functions and the 2/7 sibling collective multiplication functions, which was noted in the third section of this chapter.)