## Accelerated

## Math Fact Student

Mastery

## Reader's Digest Version

# An effective and efficient process so elementary and middle school students can master ALL four math fact arithmetic operations (addition, subtraction, multiplication and division) 

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# Accelerated Math Fact Student Mastery 

"Reader's Digest Version"

A recently written white paper entitled "Accelerated Math Fact Student Mastery" was intended to explain the importance of elementary and middle school students possessing math fact proficiency and rapid recall. That document was lengthy in writing and presented a methodology incorporating a spaced repetition (classroom instruction) methodology in conjunction with the use of Formative Loop's differentiated daily math program. However, the author desired a follow-up paper to provide a direct procedural method that is more pragmatic and teacher friendly, and that is the aim of this paper. Although this follow-up document may appear lengthy due to the large number of classroom resources provided in the Appendix, those resources accelerate and are specific to the student learning process described in this paper and eliminate the need for teachers to create or search for similar resources on Internet sites. For pragmatic pedagogical reasons, two different versions of each worksheet as well as all classroom resources referenced in this process are attached.

As stated in the original paper, there is no magically effortless solution to numerical proficiency. However, this process will make the math fact mastery work much easier. Like all valued human endeavors, the process requires effort from both the classroom teacher and his or her students, but this white paper proposes a true and tested procedural methodology that makes the process much more viable.

Using the combination of the Formative Loop digital conduit and effective classroom pedagogy, the teacher is preparing his or her students for success on the next math fact assessment as they progress and master their four (4) math fact operations. For instance, as students are mastering their addition facts, they are systematically prepared for success in both their subtraction and multiplication facts. With the use of the differentiated Formative Loop Numeracy Program, the monitoring and tracking of student math fact progress through a five minute daily assessment is extremely efficient.

Each math fact section is intended to be procedural with only the minimum amount of information so a teacher can be immediately effective using the described process. It is beneficial for the teacher to understand a 'spaced repetition (instructional) system.' There is a white paper available for free download at the website listed in the footer as well as two blogs on the same website describing this process in detail. It is also highly recommended that the reader refer to the original paper with regard to each of the four (4) math fact areas since the original paper provides greater detail and background information.

## Addition Math Facts

Single-digit addition math facts, like multiplication, will be the easiest for students to quickly master. Unlike subtraction and division, both addition and multiplication possess a commutative property. The commutative property of addition states that " $\mathrm{a}+\mathrm{b}=\mathrm{b}+\mathrm{a}$ " or " $4+5=5+4$ ". This reduces the amount of memorization by approximately half of the total number of one-digit addition facts. Furthermore, if the 0's and 1 's are not counted due to their simplicity, there are only 36 discrete addition (or multiplication) facts to memorize. If a student learns their addition doubles and perfect squares in multiplication, another eight (8) facts are eliminated. In that case, the student must only memorize a total of 28 addition (or multiplication) math facts when learning either single digit addition or multiplication facts. It is also assumed that teachers are cognizant of the following pedagogical facts: If the math numeracy skill is newly introduced, a tactile manipulative initiates the

## MASTERING ADDITION FACTS

1.) The elementary teacher should teach addition doubles every day for a short period of time until the students master them. The use of quick and lively mini-lessons (spaced repetition instruction) each day are highly effective. For example, a teacher selects an even one digit number, and the children respond with the correct number of fingers indicating that number doubled - or by verbally responding with the answer using inside voices. TIP: The teacher should monitor students who struggle with these concepts during these sessions to ensure their understanding.
2.) After addition doubles are mastered, the teacher can repeat the procedure described in 1.) above with 'doubles plus 1'. Paper-pencil assessments plus pictorial visuals are available in the Appendix.
3.) The teacher should also use this same instructional technique as students master "Making 10." The teacher provides a number, and the students find the missing or corresponding number to sum to 10 . For example, the teacher may say or write 6 , and students respond with 4 fingers or verbally respond with the number "4." Students may be assessed with the appropriate assessment located in the Appendix with a five (5) minute time limit. The black star on each classroom resource located in the Appendix denotes a recommendation of student mastery.
4.) The teacher should begin 'multiples' work from second grade through fifth grade. The class can count aloud, chorally, and students should be given a time limit to write the multiples on a warmup or piece of paper. For example, teachers may give the number 2, and students begin at zero and count by 2 for 45 seconds, listing as many multiples of 2 as they are able.
5.) Multiples should follow this sequence pattern: $2,10,5,3,4,6,7,8,9$ and 11 . On multiples of 12, the teacher can list out the first 4 multiples of 12 as $0,12,24,36$. The students count by 12 's to that number during the mini lesson. Then, the teacher adds another multiple of 12 each day. In 5 to 8 class days of rapid, consistent repetitive practice, students are able to count to $\mathbf{1 2 0}$ by 12 's.
6.) After the majority of multiples have been covered in class, the teacher may provide the multiples practice sheets in the Appendix to students. Students should complete a multiples page independently at least one (1) time each day and once each night for homework, until students are able to demonstrate mastery of the multiples for 1 through 12 in a five minute assessment.
7.) All the mini lesson work stated in $1-6$ above should continue until all numeracy skills are mastered. Students should be pressed for performance and individual and group successes celebrated.
8.) The Formative Loop Numeracy Program offers both single and double streaming options. After paper-pencil assessment and input, the program will digitally track the progress for each student.

## Subtraction Math Facts

As every elementary teacher with more than a year's classroom experience can state, "Subtraction facts are the nemesis of the majority of elementary children." However, there is a method that assists students with learning the more difficult subtraction facts. During the addition fact process above, students mastered the skill of "Making 10." Teachers can use this simple skill to rapidly press students towards mastery of their subtraction facts. However, it is imperative that teachers show students the rationale on why this method works. Furthermore, this method works ONLY on single digit numbers subtracted from double digit numbers (e.g. $17-8$ or $11-4$ ). Figure 1 illustrates this process using the subtraction problem 15-7.


Figure 1
It is highly recommended teachers provide the mathematical understanding and reasoning of this process to their students on a whole number line. In doing so, students readily understand the physical meaning of the method and do NOT attempt to apply the 'Making 10' methodology to single digit from single digit subtraction (e.g. $6-3$ or $5-4$ ). Figure 2 below correctly depicts the subtraction problem shown in Figure 1 on a number line.


The difference of 15 - $\mathbf{7}$ is a total of 8 spaces. Hence, $15-7=8$
Figure 2

## MASTERING SUBTRACTION FACTS

1.) Addition and "Making 10 " must be mastered prior to using the Making 10 methodology shown in Figures 1 and 2. The procedure is dependent on both numeracy skills.
2.) The student should continue to progress through the Formative Loop daily numeracy program to his or her subtraction fact work after demonstrating mastery of the final (mixed) addition assessment ( 95 of 100 percent correct in five minutes). As with addition math facts, the student begins Formative Loop subtraction by mastering the 1 's, then the 2 's, 3 's, etc. Note: During a daily Formative Loop assessment, if a student is copying the above line, the student should be required to use a separate piece of paper to cover the above line of subtraction facts once that row is completed. The teacher will know the student is copying if she observes the student's head bobbing up and down during the assessment or if they are unable to correctly complete the final (mixed) assessment in 5 to 6 attempts.
3.) If the student IS capable of mastering their subtraction facts WITHOUT requiring the use of the "Making 10" process shown in Figure 1 and 2, then it is not necessary to hold the student accountable to learn the "Making 10" subtraction process. However, it is highly recommended the student still master the "Making 10" numeracy skill. There are many numeracy benefits to rapidly Making 10 from a number sense perspective.
4.) If the student is NOT making progress in mastering their subtraction facts via the traditional method, the teacher should employ the method depicted in Figure 1 and 2. There is NOT a commutative property of subtraction, so students are greatly aided using this method to master their subtraction facts.
5.) Students should continue all multiples work until mastery of the resource is demonstrated. Mastery of the multiples for $\mathbf{1}$ through $\mathbf{1 2}$ is crucial for accelerating single digit multiplication fact prowess.

## Multiplication Math Facts

If the student achieves multiples mastery with sufficient accountability and teacher encouragement - and it should be so for the majority of students at this juncture - student proficiency of multiplication math facts is usually completed rapidly. Again, as with addition, the commutative property of multiplication makes the process viable. Just as with addition, if the 0 's and 1 's are not counted, there are only 36 discrete single digit multiplication facts to memorize. If the teacher uses the same spaced repetition/mini lesson technique (e.g. Addition Doubles, Making 10, and multiples) with the perfect 'multiplication' squares, that total number drops to 28 discrete multiplication facts. The perfect squares multiplication resource is located in the Appendix - a five (5) minute timed assessment with $95 \%$ mastery requirement.

## MASTERING MULTIPLICATION FACTS

1.) If the student has not mastered the multiples assessment in five minutes, the teacher should provide the student with more practice opportunities. It is also highly recommended that the teacher monitor the child during a multiples assessment process to determine effective interventions to ensure higher success in this task.
2.) The student continues the accountability process with multiplication via the Formative Loop Numeracy Program. The teacher should monitor student progress for every child to ensure they are not 'stuck' or stagnant on a particular math fact skill.
3.) Using daily mini-lessons/spaced repetition instruction, the teacher should convey the $\mathbf{1 0}$ perfect multiplication squares (e.g. $1 \times 1,2 \times 2,3 \times 3,4 \times 4$, etc.). The teacher can hold up her or his fingers to a specific one digit number or write a number on the white/chalk board. For instance, a ' 5 .' Students respond on small white boards or verbally with ' 25 '.
4.) As students are progressing and nearing the end of their multiplication work on Formative Loop, it is recommended to begin providing students the "Find the Missing Factor" series. These practice opportunity sheets are in the Appendix. Each student should correctly complete each of these three missing factor ranges in five minutes - all three columns.
5.) Press and encourage students! Students will complete these important math tasks with the guidance and tutelage of the teacher. Monitoring, encouragement and accountability are key factors in student success.

## Division Math Facts

## MASTERING DIVISION FACTS

1.) Again, press and encourage students! Students respond to genuine encouragement and intrinsic validation that their hard work and efforts are noticed.
2.) If the students are struggling with specific math facts (e.g. $63 \div 9,48 \div 8,72 \div 9$ ), a successful method is often to create little flashcards from 3 inch by 5 inch index cards with ONLY the few math fact problems that are an issue. In doing so, the student studies only those specific problems - and NOT all the facts. These fact tests should be used as diagnostic tools to increase achievement.
3.) The teacher may also provide short 'fun' quiz sessions during transition times in the hallway. These quizzes can be on a few math facts that an individual or group of students are struggling with. When given repetitive practice, students become adept.

At this point, the work is almost over. Division math facts are usually rapidly learned by using the three (3) part series "Find the Missing Factor" as well as by gaining proficiency with multiples of 1 through 12. Teachers often convey to students that division is the opposite of multiplication, and they are indeed, correct. However, division is a different skill set than multiplication. Finding the product or the end result of two multiplied numbers is usually much easier than determining a missing factor value. However, practicing the "Find the Missing Factor" exercises directly addresses and emulates the division process, and the vast majority of students are successful in division with the use of this exercise.

## Math Fact Incentives

Incentivizing programs motivate most students to place effort and importance in completing any given task. There are many programs in existence that will work. One of the most effective is the 'math fact driver's license' incentive program. These licenses are presented to students after they complete all four (4) math fact operations. The template for every state has been provided, including the District of Columbia. Several of these templates for specific states are available for free download at the website noted in the footer of this document. Additionally, there is a document with directions to create the math fact driver's license available for free download on this website.

## Heightened Levels of Success are Dependent on ONLY a Few Factors

Invariably, heightened teacher organization in conjunction with accountability and encouragement assists students in successfully mastering their math facts. Learning one's math facts to immediate recall is a tremendous asset both for an intermediate elementary student and teacher. Student math fact proficiency affords the student the capability to immediately understand new math concepts without becoming mired in minute computations.

It is the author's opinion that the following factors significantly heighten the success of math fact mastery in the classroom - independent of the socioeconomic setting:
1.) Effective classroom management and efficient daily routines.
2.) The ability of the teacher to build strong positive relationships with his or her students.
3.) The higher the classroom teacher's organizational skill levels, the more functional the classroom.
4.) With heightened control of student accountability/monitoring, student achievement rises accordingly.
5.) Classroom Teacher and the campus administration awareness on the intrinsic and extrinsic value of student math fact and math processing skill mastery is undeniably of paramount importance.
6.) The implementation of the daily mini-lesson/spaced repetition instruction system approach that actively engages students in dynamic repetition each and every school day is a key factor in raising student achievement.
7.) Implementing a daily numeracy program like Formative Loop with aggressive daily consistency, monitoring and accounting as well as providing immediate interventions if students are unsuccessful on a math fact or math processing skill dramatically enhances student learnings.
8.) The timely monitoring of Formative Loop Reports and drilling down on each classroom with real-time data ensures that students are not falling behind or passively educated.

It is probable to achieve between 95 to 100 percent mastery of all four (4) math fact operations for all third $\left(3^{\text {rd }}\right)$ graders regardless of a school's socioeconomic setting. This methodology has repeatedly produced sustained outcomes in large urban school districts in elementary schools with highly challenging student demographics. However, a structured plan of implementation is necessary and a focused effort is absolutely required of administrators, teachers and students. Fortunately, after the program and system are soundly established, the exertion of all involved is much less in subsequent school years - but with heightened student achievement.

## APPENDIX of RESOURCES

| ACCELERATED MATH FACT MASTERY READER'S DIGEST VERSION |  |
| :---: | :---: |
| Sheet Description | Page(s) |
| $1^{\text {st }}$ and $2^{\text {nd }}$ Grade Addition Doubles - Versions 1 \& 2 | 7-10 |
| $1^{\text {st }}$ and $2^{\text {nd }}$ Grade Addition Doubles + 1 - Versions 1 \& 2 | 11-14 |
| Doubles with Dots - Versions 1 \& 2 | 15-18 |
| Doubles with Dots Plus 1 - Versions 1 \& 2 | 19-22 |
| $3^{\text {rd }}-8^{\text {th }}$ Grade Addition Doubles - Versions 1 \& 2 | 23-26 |
| $3^{\text {rd }}-8^{\text {th }}$ Grade Addition Doubles + 1 - Versions 1 \& 2 | 27-30 |
| $1^{\text {st }}$ Grade - Making 10 - Number Sentences - V1 \& V2 | 31-34 |
| $1^{\text {st }}$ Grade - Making 10 - Mental Math - V1 \& V2 | 35-38 |
| $2^{\text {nd }}$ Grade - Making 10 - Mental Math - V1 \& V2 | 39-42 |
| $3^{\text {rd }}-8^{\text {th }}$ Grade - Making $10-$ Mental Math | 43-44 |
| $2^{\text {nd }}-8^{\text {th }}$ Grade - Multiples - 1 through 12-1 Per Page | 45-46 |
| $2^{\text {nd }}-8^{\text {th }}$ Grade - Multiples - 1 through 12-2 Per Page | 47 |
| $2^{\text {nd }}-8^{\text {th }}$ Grade - Multiples - 1 through 12-4 Per Page | 48 |
| $3^{\text {rd }}-8^{\text {th }}$ Grade Multiplication - Perfect Squares - V1 \& V2 | 49-52 |
| $3^{\text {rd }}-\mathbf{8}^{\text {th }}$ Grade - Find the Missing Factor - 3 Parts: <br> Factor Ranges: $(1-3),(4-6)$ and $(7-9)$ | 53-58 |

## $1^{\text {st }}$ and $2^{\text {nd }}$ Grade Doubles - Math Fact Practice - Version 1

Directions: Add and find each sum (DOUBLES). Use another sheet of paper to cover the above row after it has been completed. Complete as many of the doubles below in 5 minutes. Good Luck!!!

## $1^{\text {st }}$ and $2^{\text {nd }}$ Grade Doubles - Math Fact Practice - Version 1

Directions: Add and find each sum (DOUBLES). Use another sheet of paper to cover the above row after it has been completed. Complete as many of the doubles below in 5 minutes. Good Luck!!!
$+\frac{6}{12}+\frac{2}{4}+\frac{5}{10}+\frac{3}{6}+\frac{1}{2}+\frac{4}{8}+\frac{8}{16}+\frac{9}{18}+\frac{9}{14}+\frac{7}{20}$

$$
+\frac{5}{5}+\frac{1}{10}+\frac{3}{2}+\frac{3}{6}+\frac{9}{18}+\frac{4}{8}+\frac{7}{14}+\frac{10}{20}+\frac{2}{4}+\frac{6}{12}+\frac{8}{16}
$$

$$
+\frac{8}{16}+\frac{2}{4}+\frac{10}{20}+\frac{5}{10}+\frac{1}{2}+\frac{3}{6}+\frac{4}{8}+\frac{7}{14}+\frac{7}{12}+\frac{6}{18}
$$

$$
+\frac{3}{3}+\frac{10}{6}+\frac{6}{20}+\frac{6}{12}+\frac{7}{14}+\frac{8}{16}+\frac{1}{2}+\frac{4}{8}+\frac{9}{18}+\frac{9}{10}+\frac{5}{4}
$$

$$
+\frac{9}{18}+\frac{2}{4}+\frac{7}{14}+\frac{3}{6}+\frac{1}{2}+\frac{5}{10}+\frac{6}{12}+\frac{6}{16}+\frac{8}{20}+\frac{10}{8}
$$

## $1^{\text {st }}$ and $2^{\text {nd }}$ Grade Doubles - Math Fact Practice - Version 2

Directions: Add and find each sum (DOUBLES). Use another sheet of paper to cover the above row after it has been completed. Complete as many of the doubles below in 5 minutes. Good Luck!!!

$$
\begin{aligned}
& 3 \\
& +3 \\
& \hline
\end{aligned}+\underline{6}+\begin{aligned}
& 7 \\
& 6
\end{aligned}+\underline{7}+\underline{8}+\underline{1}+\begin{aligned}
& 4 \\
& 4
\end{aligned}+\underline{9}+\begin{aligned}
& 5 \\
& 5
\end{aligned}+\underline{2}
$$

## $1^{\text {st }}$ and $2^{\text {nd }}$ Grade Doubles - Math Fact Practice - Version 2

Directions: Add and find each sum (DOUBLES). Use another sheet of paper to cover the above row after it has been completed. Complete as many of the doubles below in 5 minutes. Good Luck!!!
$+\frac{9}{18}+\frac{2}{4}+\frac{7}{14}+\frac{3}{6}+\frac{1}{2}+\frac{5}{10}+\frac{6}{12}+\frac{8}{16}+\frac{8}{20}+\frac{4}{8}$

$$
+\frac{8}{16}+\frac{2}{4}+\frac{10}{20}+\frac{5}{10}+\frac{1}{2}+\frac{3}{6}+\frac{4}{8}+\frac{7}{14}+\frac{7}{12}+\frac{6}{18}
$$

$$
\begin{aligned}
& +\frac{6}{12}+\frac{2}{4}+\frac{5}{10}+\frac{3}{6}+\frac{1}{2}+\frac{4}{8}+\frac{4}{16}+\frac{8}{18}+\frac{9}{14}+\frac{7}{20} \\
& +\frac{7}{4}
\end{aligned}+\begin{aligned}
& 10 \\
& +\frac{5}{10}+\frac{1}{2}+\frac{3}{6}+\frac{9}{18}+\frac{4}{8}+\frac{7}{14}+\frac{10}{20}+\frac{2}{4}+\frac{6}{12}+\frac{8}{16}
\end{aligned}
$$

$$
+\frac{3}{6}+\frac{10}{20}+\frac{6}{12}+\frac{7}{14}+\frac{8}{16}+\frac{1}{2}+\frac{4}{8}+\frac{4}{18}+\frac{9}{10}+\frac{5}{4}
$$

## $1^{\text {st }}$ and $\mathbf{2}^{\text {nd }}$ Grade Doubles Plus 1 - Math Fact Practice - Version 1

Directions: Double the SMALLER addend and add 1 to find each sum (DOUBLES PLUS 1). Use another sheet of paper to cover the above row after it has been completed. In 5 minutes, complete as many as you can. Good Luck!!!

$$
\begin{array}{r}
10 \\
+\underline{9}+\underline{4}+\underline{4}+\begin{array}{l}
8 \\
3
\end{array}+\underline{6}+\underline{7}+\underline{11}+\begin{array}{l}
3 \\
2
\end{array}+\underline{7}+\underline{8} \\
\hline
\end{array}
$$

## $1^{\text {st }}$ and $2^{\text {nd }}$ Grade Doubles Plus 1 - Math Fact Practice - Version 1

Directions: Double the SMALLER addend and add 1 to find each sum (DOUBLES PLUS 1). Use another sheet of paper to cover the above row after it has been completed. In 5 minutes, complete as many as you can. Good Luck!!!
$+\frac{6}{13}+\frac{3}{5}+\frac{5}{9}+\frac{4}{7}+\frac{2}{3}+\frac{5}{11}+\frac{9}{17}+\frac{9}{19}+\frac{7}{15}+\frac{7}{21}$

$$
\begin{array}{r}
10 \\
+\frac{9}{19}+\frac{4}{3}+\frac{5}{7}+\frac{4}{11}+\frac{5}{9}+\frac{7}{15}+\frac{10}{21}+\frac{3}{5}+\frac{7}{13}+\frac{8}{17}
\end{array}
$$

$$
+\frac{8}{17}+\frac{2}{5}+\frac{11}{2}+\frac{6}{21}+\frac{2}{11}+\frac{3}{3}+\frac{4}{7}+\frac{4}{9}+\frac{7}{15}+\frac{7}{13}+\frac{7}{10}
$$

$$
+\frac{4}{4}+\frac{7}{7}+\frac{7}{21}+\frac{6}{13}+\frac{8}{15}+\frac{8}{17}+\frac{1}{3}+\frac{5}{9}+\frac{10}{19}+\frac{9}{11}+\frac{5}{5}
$$

$$
+\frac{9}{10}+\frac{3}{5}+\frac{7}{15}+\frac{4}{7}+\frac{1}{3}+\frac{6}{11}+\frac{6}{13}+\frac{7}{17}+\frac{9}{21}+\frac{10}{9}
$$

## $\mathbf{1}^{\text {st }}$ and $\mathbf{2}^{\text {nd }}$ Grade Doubles Plus 1 - Math Fact Practice - Version 2

Directions: Double the SMALLER addend and add 1 to find each sum (DOUBLES PLUS 1). Use another sheet of paper to cover the above row after it has been completed. In 5 minutes, complete as many as you can. Good Luck!!!

## $\mathbf{1}^{\text {st }}$ and $\mathbf{2}^{\text {nd }}$ Grade Doubles Plus 1 - Math Fact Practice - Version 2

Directions: Double the SMALLER addend and add 1 to find each sum (DOUBLES PLUS 1). Use another sheet of paper to cover the above row after it has been completed. In 5 minutes, complete as many as you can. Good Luck!!!

$$
\begin{array}{r}
10 \\
+\frac{9}{19}+\frac{7}{5}+\frac{4}{15}+\frac{1}{7}+\frac{2}{3}+\frac{5}{11}+\frac{6}{13}+\frac{7}{17}+\frac{9}{21}+\frac{10}{9}
\end{array}
$$

$$
+\frac{8}{17}+\frac{2}{5}+\frac{11}{21}+\frac{5}{11}+\frac{2}{3}+\frac{3}{7}+\frac{4}{9}+\frac{8}{15}+\frac{7}{13}+\frac{7}{19}
$$

$$
+\frac{4}{4}+\frac{10}{7}+\frac{7}{21}+\frac{6}{13}+\frac{8}{15}+\frac{8}{17}+\frac{1}{3}+\frac{5}{9}+\frac{4}{19}+\frac{9}{11}+\frac{5}{5}
$$

$$
+\frac{6}{13}+\frac{3}{5}+\frac{5}{9}+\frac{4}{7}+\frac{2}{3}+\frac{5}{11}+\frac{8}{17}+\frac{9}{19}+\frac{9}{15}+\frac{7}{21}+\begin{array}{r}
10 \\
\hline
\end{array}
$$

$$
+\frac{9}{10}+\frac{2}{19}+\frac{4}{3}+\frac{5}{7}+\frac{6}{11}+\frac{5}{9}+\frac{8}{15}+\frac{10}{21}+\frac{2}{5}+\frac{7}{13}+\frac{8}{17}
$$

## Doubles With Dots - Version 1

Directions: Use Doubles to Learn a new Math Fact.



## Doubles With Dots - Version 1

Directions: Use Doubles to Learn a new Math Fact


$9+9$


$7+7=14$

## Doubles With Dots - Version 2

Directions: Use Doubles to Learn a new Math Fact.


## Doubles With Dots - Version 2

Directions: Use Doubles to Learn a new Math Fact.


## Doubles Plus 1 with Dots - Version 1

Directions: Use Doubles to Learn a new Math Fact by Adding 1 More.


## Doubles Plus 1 with Dots - Version 1

Directions: Use Doubles to Learn a new Math Fact by Adding 1 More.



$9+9=18$
$9+10=19$

$7+7=14$
$7+8=15$

$10+10=20$ $10+11=21$



## Doubles Plus 1 with Dots - Version 2

Directions: Use Doubles to Learn a new Math Fact by Adding 1 More.


## Doubles Plus 1 with Dots - Version 2

Directions: Use Doubles to Learn a new Math Fact by Adding 1 More.



$2+2$
$=4$
$2+3$
$=5$

$3+3$

$3+4$
$=7$

$1+1$

$8+8$
$=16$
$=17$


## $3^{\text {rd }}-8^{\text {th }}$ Grade Doubles - Math Fact Practice - Version 1

Directions: Add and find each sum (DOUBLES). Use another sheet of paper to cover the above row after it has been completed. Complete as many of the doubles below in 5 minutes. Good Luck!!!

$$
\begin{aligned}
& \begin{array}{l}
7 \\
+\quad 7 \\
\hline
\end{array}+\begin{array}{l}
6 \\
1 \\
6
\end{array}+\underline{2}+\underline{4}+\begin{array}{l}
9 \\
9
\end{array}+\underline{8}+\begin{array}{l}
5 \\
5
\end{array}+\underline{10} \begin{array}{l}
3 \\
3
\end{array}
\end{aligned}
$$

$$
\begin{aligned}
& +\begin{array}{l}
1 \\
+ \\
\hline
\end{array}+\underline{6} \begin{array}{l}
6 \\
6
\end{array}+\underline{2}+\begin{array}{l}
10 \\
2 \\
10
\end{array}+\underline{3}+\begin{array}{l}
9 \\
9
\end{array}+\underline{7} \begin{array}{l}
5 \\
5
\end{array}
\end{aligned}
$$

## $3^{\text {rd }}-8^{\text {th }}$ Grade Doubles - Math Fact Practice - Version 1

Directions: Add and find each sum (DOUBLES). Use another sheet of paper to cover the above row after it has been completed. Complete as many of the doubles below in 5 minutes. Good Luck!!!

$$
\begin{aligned}
& +\begin{array}{r}
6 \\
+\frac{6}{12}
\end{array}+\frac{2}{4}+\frac{9}{6}+\frac{9}{18}+\frac{1}{2}+\frac{10}{20}+\frac{8}{16}+\frac{5}{10}+\frac{7}{14}+\frac{4}{8}+\begin{array}{c}
4 \\
\hline
\end{array} \\
& +\begin{array}{c}
5 \\
+\frac{5}{10}
\end{array}+\frac{4}{6}+\frac{6}{8}+\frac{6}{12}+\frac{2}{4}+\frac{10}{20}+\frac{7}{14}+\frac{9}{18}+\begin{array}{c}
8 \\
16
\end{array}+\frac{1}{2} \\
& +\begin{array}{c}
9 \\
+\frac{9}{18}
\end{array}+\frac{1}{2}+\frac{3}{6}+\frac{8}{16}+\frac{7}{14}+\frac{4}{8}+\frac{2}{4}+\frac{6}{12}+\frac{10}{20}+\frac{5}{10}+\begin{array}{c}
5 \\
\hline
\end{array} \\
& +\begin{array}{l}
1 \\
+\frac{1}{2}
\end{array}+\frac{4}{8}+\frac{5}{10}+\frac{10}{20}+\frac{3}{6}+\begin{array}{c}
9 \\
\frac{9}{18}
\end{array}+\frac{8}{16}+\frac{6}{12}+\frac{7}{14}+\frac{2}{4} \\
& +\begin{array}{c}
8 \\
+\frac{8}{16}
\end{array}+\frac{3}{4}+\frac{9}{6}+\frac{1}{18}+\frac{7}{2}+\frac{7}{14}+\frac{6}{12}+\frac{10}{20}+\begin{array}{c}
5 \\
10 \\
\hline 8
\end{array}+\begin{array}{c}
4 \\
\hline
\end{array}
\end{aligned}
$$

$$
\begin{aligned}
& +\begin{array}{c}
7 \\
+\frac{7}{14}
\end{array}+\frac{1}{2}+\frac{6}{12}+\frac{2}{4}+\frac{4}{8}+\frac{9}{18}+\frac{8}{16}+\frac{5}{10}+\frac{10}{20}+\frac{3}{6} \\
& +\begin{array}{c}
2 \\
+\frac{2}{4}
\end{array}+\frac{7}{14}+\frac{10}{20}+\frac{3}{6}+\frac{1}{2}+\frac{5}{10}+\frac{4}{8}+\frac{9}{18}+\frac{8}{16}+\frac{6}{12}
\end{aligned}
$$

## $3^{\text {rd }}-8^{\text {th }}$ Grade Doubles - Math Fact Practice - Version 2

Directions: Add and find each sum (DOUBLES). Use another sheet of paper to cover the above row after it has been completed. Complete as many of the doubles below in 5 minutes. Good Luck!!!

$$
\begin{aligned}
& +\begin{array}{l}
2 \\
2 \\
+ \\
7
\end{array}+\underline{10} \begin{array}{l}
3 \\
3
\end{array}+\underline{1}+\begin{array}{l}
5 \\
5
\end{array}+\underline{4}+\begin{array}{l}
9 \\
9
\end{array}+\begin{array}{l}
8 \\
8
\end{array}+\underline{6}
\end{aligned}
$$

$$
\begin{aligned}
& +\begin{array}{l}
2 \\
2
\end{array}+\underline{10}+\begin{array}{l}
8 \\
8
\end{array}+\underline{9}+\underline{5}+\begin{array}{l}
6 \\
6
\end{array}+\underline{1}+\begin{array}{l}
3 \\
3
\end{array}+\underline{7} \begin{array}{l}
4 \\
4
\end{array}
\end{aligned}
$$

$$
\begin{aligned}
& \begin{array}{l}
6 \\
+\underline{6}+\underline{2}+\begin{array}{l}
3 \\
3
\end{array}+\underline{9}+\underline{1} \begin{array}{l}
10 \\
10
\end{array}+\underline{8}+\begin{array}{l}
5 \\
5
\end{array}+\begin{array}{l}
7 \\
7
\end{array}+\underline{4}
\end{array} \\
& +\begin{array}{l}
5 \\
5
\end{array}+\underline{3}+\begin{array}{l}
6 \\
3 \\
6
\end{array}+\underline{2} \begin{array}{l}
10 \\
2 \\
10
\end{array}+\underline{7}+\begin{array}{l}
9 \\
9
\end{array}+\underline{8} \begin{array}{l}
1 \\
1
\end{array} \\
& \begin{array}{l}
9 \\
+\underline{9}
\end{array}+\underline{1} \begin{array}{l}
3 \\
3
\end{array}+\underline{8}+\begin{array}{l}
7 \\
7
\end{array}+\underline{4}+\begin{array}{l}
2 \\
2
\end{array}+\underline{6} \begin{array}{l}
10 \\
6
\end{array}+\underline{10} \begin{array}{l}
5 \\
5
\end{array}
\end{aligned}
$$

## $3^{\text {rd }}-8^{\text {th }}$ Grade Doubles - Math Fact Practice - Version 2

Directions: Add and find each sum (DOUBLES). Use another sheet of paper to cover the above row after it has been completed. Complete as many of the doubles below in 5 minutes. Good Luck!!!

$$
\begin{aligned}
& +\begin{array}{l}
1 \\
+\frac{1}{2}
\end{array}+\frac{4}{8}+\frac{6}{12}+\frac{2}{16}+\frac{2}{4}+\frac{10}{20}+\frac{3}{6}+\frac{9}{18}+\frac{7}{14}+\frac{5}{10}
\end{aligned}
$$

$$
\begin{aligned}
& +\begin{array}{c}
7 \\
+\frac{7}{14}
\end{array}+\frac{1}{2}+\frac{6}{12}+\frac{2}{2}+\frac{4}{4}+\begin{array}{c}
9 \\
8 \\
18
\end{array}+\frac{8}{16}+\frac{5}{10}+\frac{10}{20}+\frac{3}{6} \\
& +\frac{2}{2}+\frac{10}{4}+\begin{array}{c}
8 \\
20 \\
10 \\
16 \\
\hline 18
\end{array}+\frac{5}{10}+\frac{6}{12}+\frac{1}{2}+\frac{3}{6}+\frac{7}{14}+\frac{4}{8} \\
& +\begin{array}{c}
6 \\
+\frac{6}{12}
\end{array}+\frac{4}{3}+\frac{9}{8}+\frac{5}{18}+\frac{5}{10}+\frac{2}{4}+\frac{8}{16}+\frac{7}{14}+\frac{7}{20}+\frac{10}{2}+\begin{array}{c}
1 \\
\hline
\end{array} \\
& +\begin{array}{r}
6 \\
+\frac{6}{12}
\end{array}+\frac{2}{4}+\frac{9}{6}+\frac{9}{18}+\frac{1}{2}+\frac{10}{20}+\frac{8}{16}+\frac{5}{10}+\frac{7}{14}+\frac{4}{8} \\
& +\begin{array}{r}
5 \\
+\frac{5}{10}
\end{array}+\frac{4}{3}+\frac{6}{8}+\frac{6}{12}+\frac{2}{4}+\frac{10}{20}+\frac{7}{14}+\frac{9}{18}+\frac{8}{16}+\frac{1}{2}
\end{aligned}
$$

$$
\begin{aligned}
& +\frac{1}{4}+\frac{4}{2}+\frac{5}{8}+\frac{5}{10}+\frac{10}{20}+\frac{3}{6}+\frac{9}{18}+\frac{8}{16}+\frac{6}{12}+\frac{7}{14}+\frac{2}{4} \\
& +\begin{array}{c}
8 \\
16 \\
\hline
\end{array}+\frac{2}{4}+\frac{3}{6}+\frac{9}{18}+\frac{1}{\frac{1}{2}}+\frac{7}{14}+\frac{6}{12}+\frac{10}{20}+\frac{5}{10}+\frac{4}{8}
\end{aligned}
$$

## $3^{\text {rd }}-\mathbf{8}^{\text {th }}$ Grade Doubles Plus 1 - Math Fact Practice - Version 1

Directions: Double the SMALLER addend and add 1 to find each sum (DOUBLES PLUS 1). Use Another sheet of paper to cover the above row after it has been completed. In 5 minutes, complete as many as you can. Good Luck!!!

$$
+\begin{aligned}
& 8 \\
& +\underline{7}
\end{aligned}+\underline{6}+\begin{array}{r}
2 \\
2 \\
3
\end{array}+\underline{4}+\begin{array}{r}
10 \\
9
\end{array}+\underline{9}+\begin{aligned}
& 6 \\
& 5
\end{aligned}+\underline{11} \begin{aligned}
& 4 \\
& 3
\end{aligned}
$$

## $3^{\text {rd }}-\mathbf{8}^{\text {th }}$ Grade Doubles Plus 1 - Math Fact Practice - Version 1

Directions: Double the SMALLER addend and add 1 to find each sum (DOUBLES PLUS 1). Use Another sheet of paper to cover the above row after it has been completed. In 5 minutes, complete as many as you can. Good Luck!!!

$$
\begin{aligned}
& +\begin{array}{r}
6 \\
+\frac{7}{13}
\end{array}+\frac{4}{5}+\frac{10}{7}+\frac{1}{19}+\frac{2}{3}+\frac{11}{21}+\frac{8}{17}+\frac{6}{11}+\frac{7}{15}+\frac{8}{9} \\
& +\begin{array}{r}
5 \\
+\frac{6}{11}
\end{array}+\frac{4}{7}+\frac{6}{9}+\frac{2}{13}+\frac{11}{5}+\frac{7}{21}+\frac{8}{15}+\frac{10}{19}+\frac{9}{17}+\frac{1}{3} \\
& +\begin{array}{r}
9 \\
+\frac{1}{19}
\end{array}+\frac{2}{3}+\frac{3}{7}+\frac{8}{17}+\frac{7}{15}+\frac{4}{9}+\frac{2}{5}+\frac{7}{13}+\frac{7}{21}+\frac{5}{11} \\
& +\begin{array}{l}
1 \\
+\frac{2}{3}
\end{array}+\frac{4}{9}+\frac{5}{11}+\frac{4}{21}+\frac{3}{7}+\frac{9}{19}+\frac{9}{17}+\frac{7}{13}+\frac{8}{15}+\frac{7}{5} \\
& +\begin{array}{r}
8 \\
+\frac{9}{17}
\end{array}+\frac{4}{5}+\frac{3}{7}+\frac{2}{10}+\frac{1}{3}+\frac{7}{15}+\frac{7}{13}+\frac{11}{21}+\frac{6}{11}+\begin{array}{c}
5 \\
9
\end{array} \\
& +\begin{array}{r}
6 \\
+\frac{7}{13}
\end{array}+\frac{3}{7}+\frac{4}{9}+\frac{6}{10}+\frac{5}{11}+\frac{3}{5}+\frac{8}{17}+\frac{8}{15}+\frac{10}{21}+\frac{11}{3}
\end{aligned}
$$

$$
\begin{aligned}
& +\begin{array}{r}
8 \\
+\frac{7}{15}
\end{array}+\frac{1}{3}+\frac{6}{13}+\frac{2}{5}+\frac{4}{9}+\begin{array}{r}
10 \\
9 \\
9
\end{array}+\frac{9}{17}+\frac{5}{11}+\frac{10}{21}+\frac{3}{7} \\
& +\begin{array}{l}
3 \\
+\frac{2}{5}
\end{array}+\frac{10}{15}+\frac{3}{21}+\frac{2}{7}+\frac{1}{3}+\frac{6}{11}+\frac{5}{9}+\begin{array}{r}
10 \\
19
\end{array}+\frac{9}{17}+\frac{7}{13} \\
& +\frac{2}{2}+\frac{4}{3}+\begin{array}{c}
7 \\
9 \\
\mathbf{1 3}
\end{array}+\frac{9}{17}+\frac{2}{5}+\frac{10}{21}+\frac{4}{7}+\frac{9}{7}+\frac{10}{19}+\frac{8}{15}+\frac{5}{11}
\end{aligned}
$$

## $3^{\text {rd }}-8^{\text {th }}$ Grade Doubles Plus 1 - Math Fact Practice - Version 2

Directions: Double the SMALLER addend and add 1 to find each sum (DOUBLES PLUS 1). Use Another sheet of paper to cover the above row after it has been completed. In 5 minutes, complete as many as you can. Good Luck!!!

$$
\begin{array}{r}
9 \\
+\underline{10}
\end{array}+\underline{4}+\begin{array}{r}
8 \\
2 \\
3
\end{array}+\underline{9}+\underline{4}+\underline{4} \begin{aligned}
& 3 \\
& 5
\end{aligned}+\begin{aligned}
& 6 \\
& 7
\end{aligned}+\underline{11} \begin{aligned}
& 6 \\
& 5
\end{aligned}
$$

$$
\begin{aligned}
& +\begin{array}{l}
8 \\
7
\end{array}+\underline{2}+\begin{array}{r}
2 \\
2 \\
3
\end{array}+\underline{4}+\begin{array}{r}
10 \\
9
\end{array}+\underline{9}+\begin{array}{l}
6 \\
5
\end{array}+\underline{11} \begin{array}{l}
4 \\
3
\end{array}
\end{aligned}
$$

## $3^{\text {rd }}-8^{\text {th }}$ Grade Doubles Plus 1 - Math Fact Practice - Version 2

Directions: Double the SMALLER addend and add 1 to find each sum (DOUBLES PLUS 1). Use Another sheet of paper to cover the above row after it has been completed. In 5 minutes, complete as many as you can. Good Luck!!!

$$
+\frac{3}{5}+\frac{10}{21}+\frac{8}{17}+\begin{array}{r}
10 \\
+\frac{9}{19}
\end{array}+\frac{5}{11}+\frac{7}{13}+\frac{2}{3}+\frac{4}{7}+\begin{array}{r}
7 \\
15 \\
9
\end{array}+\begin{array}{r}
5 \\
\hline
\end{array}
$$

$$
\begin{array}{r}
8 \\
+\frac{9}{17}
\end{array}+\frac{4}{2}+\frac{9}{5}+\frac{2}{7}+\frac{10}{19}+\frac{1}{3}+\frac{7}{15}+\frac{7}{13}+\frac{10}{21}+\frac{5}{\mathbf{1 1}}+\frac{4}{9}
$$

$$
\begin{array}{r}
1 \\
+\frac{2}{3}
\end{array}+\frac{5}{9}+\frac{6}{11}+\frac{10}{21}+\frac{4}{7}+\begin{array}{r}
10 \\
\frac{9}{19}
\end{array}+\frac{9}{17}+\frac{7}{13}+\frac{7}{15}+\begin{array}{r}
3 \\
\hline
\end{array}
$$

$$
\begin{array}{r}
9 \\
+\frac{1}{19}
\end{array}+\frac{4}{3}+\frac{8}{7}+\frac{8}{17}+\frac{9}{15}+\frac{5}{9}+\frac{2}{5}+\frac{7}{13}+\frac{6}{21}+\frac{11}{6}+\begin{array}{r}
5 \\
\mathbf{1 1}
\end{array}
$$

$$
+\frac{6}{13}+\frac{2}{5}+\frac{4}{7}+\begin{array}{r}
10 \\
\mathbf{1} \\
+\frac{9}{19}
\end{array}+\frac{1}{3}+\frac{10}{21}+\frac{8}{17}+\frac{5}{11}+\frac{7}{15}+\frac{8}{9}
$$

$$
\begin{aligned}
& +\begin{array}{l}
2 \\
+\frac{1}{3}
\end{array}+\frac{7}{9}+\frac{6}{13}+\frac{3}{17}+\frac{10}{5}+\frac{4}{211}+\frac{3}{7}+\frac{10}{19}+\begin{array}{r}
7 \\
\frac{8}{15}
\end{array}+\frac{5}{\mathbf{1 1}} \\
& +\frac{3}{5}+\frac{7}{5}+\frac{10}{15}+\frac{11}{21}+\frac{4}{7}+\frac{1}{3}+\frac{5}{11}+\frac{5}{9}+\frac{10}{19}+\frac{9}{17}+\frac{7}{13}
\end{aligned}
$$

$1$
$1$
$1$
$1$

## $1^{\text {st }}$ Grade - Making 10 - Mental Math - V1

Making 10 Directions: Fill in each box so the two numbers SUM to a total of 10 .

| $\mathbf{1 0}$ | 0 |
| :---: | :---: |
| 5 | 5 |
| 8 | 2 |
| 4 | 6 |
| 2 |  |
| 5 |  |
| 3 |  |
| $\mathbf{1}$ |  |
| 8 |  |
| 0 |  |


| 8 |  |
| :--- | :--- |
| 4 |  |
| 3 |  |
| 5 |  |
| 2 |  |
| 4 |  |
| 9 |  |
| 3 |  |
| 7 |  |
| 4 |  |


| 7 |  |
| :--- | :--- |
| 6 |  |
| 8 |  |
| 2 |  |
| 5 |  |
| 0 |  |
| 8 |  |
| 2 |  |
| 5 |  |
| 3 |  |


| 6 |  |
| :---: | :--- |
| 7 |  |
| 5 |  |
| 4 |  |
| 10 |  |
| 9 |  |
| 2 |  |
| 6 |  |
| 3 |  |
| 8 |  |

$1^{\text {st }}$ Grade - Making 10 - Mental Math - V1
Making 10 Directions: Fill in each box so the two numbers SUM to a total of 10.

| 10 | 0 |
| :---: | :---: |
| 5 | 5 |
| 8 | 2 |
| 4 | 6 |
| 2 | $\underline{8}$ |
| 5 | $\underline{5}$ |
| 3 | $\underline{7}$ |
| 1 | $\underline{9}$ |
| 4 | $\underline{6}$ |
| 3 | $\underline{7}$ |
| 5 | $\underline{5}$ |
| 2 | $\underline{6}$ |
| 4 | $\underline{2}$ |
| 4 | $\underline{6}$ |
| 0 | $\underline{10}$ |
| 3 | $\underline{1}$ |
| 7 | $\underline{7}$ |
| 4 | $\underline{3}$ |


| 7 | $\underline{3}$ |
| :--- | :--- |
| 6 | $\underline{4}$ |
| 8 | $\underline{2}$ |
| 2 | $\underline{8}$ |
| 5 | $\underline{5}$ |
| 0 | $\underline{10}$ |
| 8 | $\underline{2}$ |
| 2 | $\underline{8}$ |
| 5 | $\underline{5}$ |
| 3 | $\underline{7}$ |
|  | $\star$ |

## $1^{\text {st }}$ Grade - Making 10 - Mental Math - V2

Making 10 Directions: Fill in each box so the two numbers SUM to a total of 10.

| 0 | 10 | 7 |
| :---: | :---: | :---: |
| 3 | 7 | 5 |
| 8 | 2 | 2 |
| 4 | 6 | 8 |
| 6 |  | 1 |
| 2 |  | 3 |
| 10 |  | 0 |
| 3 |  | 4 |
| 5 |  | 6 |
| 1 |  | 5 |


| 6 |  |
| :--- | :--- |
| 4 |  |
| 9 |  |
| 2 |  |
| 5 |  |
| 1 |  |
| 8 |  |
| 2 |  |
| 0 |  |
| 2 |  |


| 2 |  |
| :--- | :--- |
| 7 |  |
| 1 |  |
| 3 |  |
| 9 |  |
| 2 |  |
| 0 |  |
| 5 |  |
| 9 |  |
| 3 |  |

## $1^{\text {st }}$ Grade - Making 10 - Mental Math - V2

Making 10 Directions: Fill in each box so the two numbers SUM to a total of 10.

|  | 10 | 7 | $\underline{3}$ | 6 | $\underline{4}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | 7 | 5 | $\underline{5}$ | 4 | $\underline{6}$ |
| 8 | 2 | 2 | 8 | 9 | 1 |
| 4 | 6 | 8 | $\underline{2}$ | 2 | $\underline{8}$ |
| 6 | $\underline{4}$ | 1 | $\underline{9}$ | 5 | $\underline{5}$ |
| 2 | 8 | 3 | $\underline{7}$ | 1 | $\underline{9}$ |
| 10 | $\underline{0}$ | 0 | 10 | 8 | $\underline{2}$ |
| 3 | $\underline{7}$ | 4 | $\underline{6}$ | 2 | $\underline{8}$ |
| 5 | $\underline{5}$ | 6 | 4 | 0 | 10 |
|  | $\underline{9}$ | 5 | $\underline{5}$ | 2 | $\underline{8}$ |


| 2 | $\underline{8}$ |
| :---: | :---: |
| 7 | $\underline{3}$ |
| $\mathbf{1}$ | $\underline{9}$ |
| $\mathbf{3}$ | $\underline{7}$ |
| $\mathbf{9}$ | $\underline{1}$ |
| 2 | $\underline{8}$ |
| $\mathbf{0}$ | $\underline{10}$ |
| 5 | $\underline{5}$ |
| $\mathbf{9}$ | $\underline{1}$ |
| 3 | $\underline{7}$ |

## $2^{\text {nd }}$ Grade - Making 10 - Mental Math - V1

Making 10 Directions: Fill in each box so the two numbers SUM to a total of 10 .

| 10 | 0 | 7 |
| :---: | :---: | :---: |
| 2 | 8 | 0 |
| 6 | 4 | 3 |
| 7 | 3 | 5 |
| 1 |  | 2 |
| 5 |  | 1 |
| 4 |  | 9 |
| 3 |  | 3 |
| 2 |  | 7 |
| 1 |  | 4 |
| 2 |  | 3 |
| 1 |  | 1 |
| 5 |  | 9 |
| 0 |  | 4 |
| 2 |  | 5 |
| 4 |  | 6 |
| 7 |  | 9 |


| 1 |  |
| :---: | :--- |
| 6 |  |
| 10 |  |
| 2 |  |
| 5 |  |
| 1 |  |
| 8 |  |
| 2 |  |
| 0 |  |
| 3 |  |
| 5 |  |
| 3 |  |
| 7 |  |
| 2 |  |
| 6 |  |
| 4 |  |
| 8 |  |


| 4 |  |
| :---: | :--- |
| 7 |  |
| 1 |  |
| 4 |  |
| 10 |  |
| 9 |  |
| 2 |  |
| 6 |  |
| 3 |  |
| 8 |  |
| 5 |  |
| 1 |  |
| 7 |  |
| 2 |  |
| 9 |  |
| 2 |  |
| 4 |  |

$2^{\text {nd }}$ Grade - Making 10 - Mental Math - V1
Making 10 Directions: Fill in each box so the two numbers SUM to a total of 10 .

| 10 | 0 |
| :---: | :---: |
| 2 | 8 |
| 6 | 4 |
| 7 | 3 |
| 1 | $\underline{9}$ |
| 5 | $\underline{5}$ |
| 4 | $\underline{6}$ |
| 3 | $\underline{7}$ |
| 2 | $\underline{8}$ |
| 1 | $\underline{9}$ |
| 2 | $\underline{8}$ |
| 1 | $\underline{9}$ |
| 5 | $\underline{5}$ |
| 0 | $\underline{10}$ |
| 2 | $\underline{8}$ |
| 4 | $\underline{6}$ |
| 7 | $\underline{3}$ |


| 7 | $\underline{3}$ |
| :---: | :---: |
| $\mathbf{0}$ | $\underline{10}$ |
| 3 | $\underline{7}$ |
| 5 | $\underline{5}$ |
| 2 | $\underline{8}$ |
| 1 | $\underline{9}$ |
| 9 | $\underline{1}$ |
| 3 | $\underline{7}$ |
| 7 | $\underline{3}$ |
| 4 | $\underline{6}$ |
| 3 | $\underline{7}$ |
| 1 | $\underline{9}$ |
| 9 | $\underline{1}$ |
| 4 | $\underline{6}$ |
| 5 | $\underline{5}$ |
| 6 | $\underline{4}$ |
| 9 | $\underline{1}$ |


| 1 | $\underline{9}$ |
| :---: | :---: |
| 6 | $\underline{4}$ |
| 10 | $\underline{0}$ |
| 2 | $\underline{8}$ |
| 5 | $\underline{5}$ |
| 1 | $\underline{9}$ |
| 8 | $\underline{2}$ |
| 2 | $\underline{8}$ |
| 0 | $\underline{10}$ |
| 3 | $\underline{7}$ |
| 5 | $\underline{5}$ |
| 3 | $\underline{7}$ |
| 7 | $\underline{3}$ |
| 2 | $\underline{8}$ |
| 6 | $\underline{4}$ |
| 4 | $\underline{6}$ |
| 8 | $\underline{2}$ |


| 4 | $\underline{6}$ |
| :---: | :---: |
| 7 | $\underline{3}$ |
| 1 | $\underline{9}$ |
| 4 | $\underline{6}$ |
| 10 | $\underline{0}$ |
| 9 | $\underline{1}$ |
| 2 | $\underline{8}$ |
| 6 | $\underline{4} \star$ |
| 3 | $\underline{7}$ |
| 8 | $\underline{2}$ |
| 5 | $\underline{5}$ |
| 1 | $\underline{9}$ |
| 7 | $\underline{3}$ |
| 2 | $\underline{8}$ |
| 9 | $\underline{1}$ |
| 2 | $\underline{8}$ |
| 4 | $\underline{6}$ |

## $2^{\text {nd }}$ Grade - Making 10 - Mental Math - V2

Making 10 Directions: Fill in each box so the two numbers SUM to a total of 10.

| 10 | 0 | 8 |
| :---: | :---: | :---: |
| 6 | 4 | 5 |
| 8 | 2 | 2 |
| 3 | 7 | 8 |
| 6 |  | 1 |
| 5 |  | 9 |
| 2 |  | 0 |
| 3 |  | 4 |
| 2 |  | 6 |
| 1 |  | 5 |
| 0 |  | 8 |
| 2 |  | 0 |
| 8 |  | 3 |
| 5 |  | 9 |
| 9 |  | 2 |
| 2 |  | 4 |
| 5 |  | 6 |


| 1 |  |
| :--- | :--- |
| 4 |  |
| 7 |  |
| 2 |  |
| 5 |  |
| 1 |  |
| 8 |  |
| 2 |  |
| 0 |  |
| 3 |  |
| 5 |  |
| 7 |  |
| 6 |  |
| 2 |  |
| 6 |  |
| 4 |  |
| 8 |  |


| 4 |  |
| :--- | :--- |
| 7 |  |
| 1 |  |
| 3 |  |
| 9 |  |
| 1 |  |
| 0 |  |
| 2 |  |
| 9 |  |
| 3 |  |
| 1 |  |
| 5 |  |
| 6 |  |
| 1 |  |
| 2 |  |
| 3 |  |
| 6 |  |

## $2^{\text {nd }}$ Grade - Making 10 - Mental Math - V2

Making 10 Directions: Fill in each box so the two numbers SUM to a total of 10.

| 10 | 0 |
| :---: | :---: |
| 6 | 4 |
| 8 | 2 |
| 3 | 7 |
| 6 | $\underline{4}$ |
| 5 | $\underline{5}$ |
| 2 | $\underline{8}$ |
| 3 | $\underline{7}$ |
| 2 | $\underline{8}$ |
| 1 | $\underline{9}$ |
| $\mathbf{0}$ | $\underline{10}$ |
| 2 | $\underline{8}$ |
| 8 | $\underline{2}$ |
| 5 | $\underline{2}$ |
| 2 | $\underline{5}$ |
| $\mathbf{5}$ | $\underline{5}$ |
| $\mathbf{8}$ | $\underline{6}$ |
| 9 | $\underline{1}$ |
| 2 | $\underline{8}$ |
| 5 | $\underline{5}$ |
| 9 | $\underline{9}$ |
| 9 | $\underline{1}$ |
| 0 | $\underline{10}$ |
| 4 | $\underline{6}$ |
| 6 | $\underline{4}$ |
| 5 | $\underline{5}$ |
| 8 | $\underline{2}$ |
| $\mathbf{0}$ | $\underline{10}$ |
| 3 | $\underline{7}$ |
| 9 | $\underline{1}$ |
| 2 | $\underline{8}$ |
| 4 | $\underline{6}$ |
| 6 | $\underline{4}$ |


| 1 | $\underline{9}$ |
| :---: | :---: |
| 4 | $\underline{6}$ |
| 7 | $\underline{3}$ |
| 2 | $\underline{8}$ |
| 5 | $\underline{5}$ |
| 1 | $\underline{9}$ |
| 8 | $\underline{2}$ |
| 2 | $\underline{8}$ |
| 0 | $\underline{10}$ |
| 3 | $\underline{7}$ |
| 5 | $\underline{5}$ |
| 7 | $\underline{3}$ |
| 6 | $\underline{4}$ |
| 2 | $\underline{8}$ |
| 6 | $\underline{4}$ |
| 4 | $\underline{6}$ |
| 8 | $\underline{2}$ |


| 4 | $\underline{6}$ |
| :---: | :---: |
| 7 | $\underline{3}$ |
| 1 | $\underline{9}$ |
| 3 | $\underline{7}$ |
| 9 | $\underline{1}$ |
| 1 | $\underline{9}$ |
| 0 | $\underline{10}$ |
| 2 | $\underline{8}$ |
| 9 | $\underline{1}$ |
| 3 | $\underline{7}$ |
| 1 | $\underline{9}$ |
| 5 | $\underline{5}$ |
| 6 | $\underline{4}$ |
| 1 | $\underline{9}$ |
| 2 | $\underline{8}$ |
| 3 | $\underline{7}$ |
| 6 | $\underline{4}$ |

## MAKING 10

Directions: Fill in each box so the two numbers SUM to 10.

| 10 | 0 |
| :---: | :---: |
| 9 | 1 |
| 8 | 2 |
| 7 | 3 |
| 6 |  |
| 0 |  |
| 1 |  |
| 3 |  |
| 8 |  |
| 1 |  |
| 10 |  |
| 3 |  |
| 4 |  |
| 9 |  |
| 1 |  |
| 5 |  |
| 8 |  |
| 2 |  |
| 1 |  |
| 5 |  |
| 0 |  |
| 2 |  |
| 4 |  |


| 4 |  |
| :---: | :--- |
| 5 |  |
| 3 |  |
| 5 |  |
| 2 |  |
| 1 |  |
| 9 |  |
| 3 |  |
| 7 |  |
| 4 |  |
| 5 |  |
| 2 |  |
| 6 |  |
| 8 |  |
| 0 |  |
| 2 |  |
| 7 |  |
| 3 |  |
| 1 |  |
| 9 |  |
| 4 |  |
| 5 |  |
| 6 |  |


| 9 |  |
| :---: | :--- |
| 6 |  |
| 8 |  |
| 2 |  |
| 5 |  |
| 1 |  |
| 8 |  |
| 2 |  |
| 0 |  |
| 3 |  |
| 5 |  |
| 7 |  |
| 6 |  |
| 4 |  |
| 8 |  |
| 1 |  |
| 0 |  |
| 5 |  |
| 3 |  |
| 7 |  |
| 2 |  |
| 6 |  |
| 4 |  |


| 0 |  |
| :---: | :--- |
| 7 |  |
| 1 |  |
| 4 |  |
| 10 |  |
| 9 |  |
| 2 |  |
| 6 |  |
| 3 |  |
| 8 |  |
| 1 |  |
| 7 |  |
| 5 |  |
| 2 |  |
| 0 |  |
| 8 |  |
| 2 |  |
| 5 |  |
| 1 |  |
| 7 |  |
| 2 |  |
| 9 |  |
| 2 |  |

## MAKING 10

Directions: Fill in each box so the two numbers SUM to 10.

| 10 | 0 |
| :---: | :---: |
| 9 | 1 |
| 8 | 2 |
| 7 | 3 |
| 6 | $\underline{4}$ |
| 0 | $\underline{10}$ |
| 1 | $\underline{9}$ |
| 3 | $\underline{7}$ |
| 8 | $\underline{2}$ |
| 1 | $\underline{9}$ |
| 10 | $\underline{0}$ |
| 3 | $\underline{7}$ |
| 4 | $\underline{6}$ |
| 9 | $\underline{1}$ |
| 1 | $\underline{9}$ |
| 5 | $\underline{5}$ |
| 8 | $\underline{2}$ |
| 2 | $\underline{8}$ |
| 1 | $\underline{9}$ |
| 5 | $\underline{5}$ |
| 0 | $\underline{10}$ |
| 2 | $\underline{8}$ |
| 4 | $\underline{6}$ |


| 4 | $\underline{6}$ |
| :---: | :---: |
| 5 | $\underline{5}$ |
| 3 | $\underline{7}$ |
| 5 | $\underline{5}$ |
| 2 | $\underline{8}$ |
| 1 | $\underline{9}$ |
| 9 | $\underline{1}$ |
| 3 | $\underline{7}$ |
| 7 | $\underline{3}$ |
| 4 | $\underline{6}$ |
| 5 | $\underline{5}$ |
| 2 | $\underline{8}$ |
| 6 | $\underline{4}$ |
| 8 | $\underline{2}$ |
| 0 | $\underline{10}$ |
| 2 | $\underline{8}$ |
| 7 | $\underline{3}$ |
| 3 | $\underline{7}$ |
| 1 | $\underline{9}$ |
| 9 | $\underline{1}$ |
| 4 | $\underline{6}$ |
| 5 | $\underline{5}$ |
| 6 | $\underline{4}$ |


| 9 | $\underline{1}$ |
| :---: | :---: |
| 6 | $\underline{4}$ |
| 8 | $\underline{2}$ |
| 2 | $\underline{8}$ |
| 5 | $\underline{5}$ |
| 1 | $\underline{9}$ |
| 8 | $\underline{2}$ |
| 2 | $\underline{8}$ |
| 0 | $\underline{10}$ |
| 3 | $\underline{7}$ |
| 5 | $\underline{5}$ |
| 7 | $\underline{3}$ |
| 6 | $\underline{4}$ |
| 4 | $\underline{6}$ |
| 8 | $\underline{2}$ |
| 1 | $\underline{9}$ |
| 0 | $\underline{10}$ |
| 5 | $\underline{5}$ |
| 3 | $\underline{7}$ |
| 7 | $\underline{3}$ |
| 2 | $\underline{8}$ |
| 6 | $\underline{4}$ |
| 4 | $\underline{6}$ |


| 0 | $\underline{10}$ |
| :---: | :---: |
| 7 | $\underline{3}$ |
| 1 | $\underline{9}$ |
| 4 | $\underline{6}$ |
| 10 | $\underline{0}$ |
| 9 | $\underline{1}$ |
| 2 | $\underline{8}$ |
| 6 | $\underline{4}$ |
| 3 | $\underline{7}$ |
| 8 | $\underline{2}$ |
| 1 | $\underline{9}$ |
| 7 | $\underline{3}$ |
| 5 | $\underline{5}$ |
| 2 | $\underline{8}$ |
| 0 | $\underline{10}$ |
| 8 | $\underline{2}$ |
| 2 | $\underline{8}$ |
| 5 | $\underline{5}$ |
| 1 | $\underline{9}$ |
| 7 | $\underline{3}$ |
| 2 | $\underline{8}$ |
| 9 | $\underline{1}$ |
| 2 | $\underline{8} \star$ |
|  |  |

## Multiples Challenge 1 - ( 1 through 12)

Directions: In 5 minutes, fill in the table with the correct multiples by skip counting downward.

| $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ | $\mathbf{6}$ | $\mathbf{7}$ | $\mathbf{8}$ | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{0}$ | 0 | 0 | 0 | 0 | 0 |  |  |  |  |  |  |
| $\mathbf{1}$ | 2 | 3 | 4 |  |  |  |  |  |  |  |  |
| $\mathbf{2}$ | 4 | 6 |  |  |  |  |  |  |  |  |  |
| $\mathbf{3}$ | 6 |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{4}$ |  |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{5}$ |  |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{6}$ |  |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{7}$ |  |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{8}$ |  |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{9}$ |  |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{1 0}$ |  |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{1 1}$ |  |  |  |  |  |  |  |  |  |  |  |
| $\mathbf{1 2}$ |  |  |  |  |  |  |  |  |  |  |  |

## Multiples Challenge 1 - ( 1 through 12)

Directions: In 5 minutes, fill in the table with the correct multiples by skip counting downward.

| $\mathbf{1}$ | 2 | 3 | $\mathbf{4}$ | $\mathbf{5}$ | $\mathbf{6}$ | 7 | $\mathbf{8}$ | $\mathbf{9}$ | $\mathbf{1 0}$ | $\mathbf{1 1}$ | $\mathbf{1 2}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{0}$ | 0 | 0 | 0 | 0 | 0 | $\underline{0}$ | $\underline{0}$ | $\underline{0}$ | $\underline{0}$ | $\underline{0}$ | $\underline{0}$ |
| $\mathbf{1}$ | 2 | 3 | 4 | $\underline{5}$ | $\underline{6}$ | $\underline{7}$ | $\underline{8}$ | $\underline{9}$ | $\underline{10}$ | $\underline{11}$ | $\underline{12}$ |
| 2 | 4 | 6 | $\underline{8}$ | $\underline{10}$ | $\underline{12}$ | $\underline{14}$ | $\underline{16}$ | $\underline{18}$ | $\underline{20}$ | $\underline{22}$ | $\underline{24}$ |
| 3 | 6 | $\underline{9}$ | $\underline{12}$ | $\underline{15}$ | $\underline{18}$ | $\underline{21}$ | $\underline{24}$ | $\underline{27}$ | $\underline{30}$ | $\underline{33}$ | $\underline{36}$ |
| 4 | $\underline{8}$ | $\underline{12}$ | $\underline{16}$ | $\underline{20}$ | $\underline{4} 4$ | $\underline{28}$ | $\underline{32}$ | $\underline{36}$ | $\underline{40}$ | $\underline{44}$ | $\underline{48}$ |
| 5 | $\underline{10}$ | $\underline{15}$ | $\underline{20}$ | $\underline{25}$ | $\underline{30}$ | $\underline{35}$ | $\underline{40}$ | $\underline{45}$ | $\underline{50}$ | $\underline{55}$ | $\underline{60}$ |
| 6 | $\underline{12}$ | $\underline{18}$ | $\underline{24}$ | $\underline{30}$ | $\underline{36}$ | $\underline{42}$ | $\underline{48}$ | $\underline{54}$ | $\underline{60}$ | $\underline{66}$ | $\underline{72}$ |
| 7 | $\underline{14}$ | $\underline{21}$ | $\underline{28}$ | $\underline{35}$ | $\underline{42}$ | $\underline{49}$ | $\underline{56}$ | $\underline{63}$ | $\underline{70}$ | $\underline{77}$ | $\underline{84}$ |
| 8 | $\underline{16}$ | $\underline{24}$ | $\underline{32}$ | $\underline{40}$ | $\underline{48}$ | $\underline{56}$ | $\underline{64}$ | $\underline{72}$ | $\underline{80}$ | $\underline{88}$ | $\underline{96}$ |
| $\mathbf{9}$ | $\underline{18}$ | $\underline{27}$ | $\underline{36}$ | $\underline{45}$ | $\underline{54}$ | $\underline{63}$ | $\underline{72}$ | $\underline{81}$ | $\underline{90}$ | $\underline{99}$ | $\underline{108}$ |
| 10 | $\underline{20}$ | $\underline{30}$ | $\underline{40}$ | $\underline{50}$ | $\underline{60}$ | $\underline{70}$ | $\underline{80}$ | $\underline{90}$ | $\underline{100}$ | $\underline{110}$ | $\underline{120}$ |
| 11 | $\underline{22}$ | $\underline{33}$ | $\underline{44}$ | $\underline{55}$ | $\underline{66}$ | $\underline{77}$ | $\underline{88}$ | $\underline{99}$ | $\underline{110}$ | $\underline{121}$ | $\underline{132}$ |
| 12 | $\underline{44}$ | $\underline{36}$ | $\underline{48}$ | $\underline{60}$ | $\underline{72}$ | $\underline{84}$ | $\underline{96}$ | $\underline{108}$ | $\underline{120}$ | $\underline{132}$ | $\frac{144}{\star}$ |

MULTIPLES 1-12
Name

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |  |  |
| 1 | 2 | 3 | 4 | 5 |  |  |  |  |  |  |  |
| 2 | 4 | 6 |  |  |  |  |  |  |  |  |  |
| 3 | 6 |  |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |  |  |  |  |  |

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MULTIPLES 1-12

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |  |  |
| 1 | 2 | 3 | 4 | 5 |  |  |  |  |  |  |  |
| 2 | 4 | 6 |  |  |  |  |  |  |  |  |  |
| 3 | 6 |  |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |  |  |  |  |  |


| X | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 2 | 3 | 4 |  |  |  |  |  |  |  |  |
| 2 | 4 | 6 |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |  |  |  |  |  |

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| X | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 2 | 3 | 4 |  |  |  |  |  |  |  |  |
| 2 | 4 | 6 |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |
| 9 |  |  |  |  |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |  |  |  |  |
| 11 |  |  |  |  |  |  |  |  |  |  |  |
| 12 |  |  |  |  |  |  |  |  |  |  |  |

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## $3^{\text {rd }}-8^{\text {th }}$ Grade Multiplication - Perfect Squares $\mathbf{-}$ Version 1

Directions: Multiplication - Perfect Square Practice! Use another sheet of paper to cover the above row after it has been completed. Complete as many of the doubles below in 5 minutes. Good Luck!!!


## $3^{\text {rd }}-8^{\text {th }}$ Grade Multiplication - Perfect Squares $\mathbf{-}$ Version 1

Directions: Multiplication - Perfect Square Practice! Use another sheet of paper to cover the above row after it has been completed. Complete as many of the doubles below in 5 minutes. Good Luck!!!


## $3^{\text {rd }}-8^{\text {th }}$ Grade Multiplication - Perfect Squares $\mathbf{-}$ Version 2

Directions: Multiplication - Perfect Square Practice! Use another sheet of paper to cover the above row after it has been completed. Complete as many of the doubles below in 5 minutes. Good Luck!!!

## $3^{\text {rd }}-8^{\text {th }}$ Grade Multiplication - Perfect Squares - Version 2

Directions: Multiplication - Perfect Square Practice! Use another sheet of paper to cover the above row after it has been completed. Complete as many of the doubles below in 5 minutes. Good Luck!!!


## FIND THE MISSING FACTOR - 1, 2, and 3

Directions: Fill in the factor that makes the number sentence mathematically correct.

| $1 \mathrm{x} \quad=3$ | 2 x | 2 x | 2 x |
| :---: | :---: | :---: | :---: |
| 2 x | 3 x | 2 x | 3 x |
| 3 x | 2 x | 2 x | 2 x |
| 2 x | 3 x | 3 x | 3 x |
| 3 x | 3 x | 3 x | 2 x |
| 1 x | 2 x | 1 x | 3 x |
| 3 x | 3 x | 3 x | 3 x |
| 2 x | 2 x | 2 x __ $=16$ | 2 x |
| 3 x | 3 x | 3 x | 3 x |
| 2 x | 2 x | 2 x | 2 x |
| 1 x | 1 x | 2 x | 2 x |
| 2 x | 2 x | 2 x | 3 x |
| 3 x | 2 x | 2 x | 2 x |
| 2 x | 2 x | 3 x | 2 x |
| 3 x | 3 x | 3 x | 3 x |
| 2 x | 2 x | 2 x | 2 x |
| 3 x | 1 x | 2 x | 1 x |
| 2 x | 2 x | 2 x | 2 x |
| 1 x | 3 x | 1 x | 3 x |
| 2 x | 1 x | 2 x | 3 x |
| 3 x | 2 x | 3 x | 2 x |
| 3 x | 3 x | 2 x | 3 x |
| 2 x | 2 x | 2 x __ $=14$ | 2 x |
| 1 x | 2 x | 3 x | 2 x |

## FIND THE MISSING FACTOR－1，2，and 3

Directions：Fill in the factor that makes the number sentence mathematically correct．

| 1 x －${ }^{\text {c＿}}=3$ | 2 x ＿1＿$=2$ | 2 x ＿＿6＿$=12$ | 2 x ＿－3 $=6$ |
| :---: | :---: | :---: | :---: |
| 2 x －2＿$=4$ | 3 x ＿－$\underline{8}_{-}=24$ | 2 x ＿－3 $=6$ | $3 \mathrm{x} \_\underline{10}=30$ |
| $3 \mathrm{x}-4 \_=12$ | 2 x －10 $=20$ | 2 x ＿$\underline{4}=8$ | 2 x ＿－$\underline{\mathbf{9}}=18$ |
| $2 \times \ldots \underline{9}=18$ | 3 x ＿－6 $=18$ | 3 x ＿－$\underline{8}_{-}=24$ | 3 x －$\underline{5}=15$ |
| $3 \times \sim \underline{3}=9$ | 3 x ＿10－$=30$ | 3 x ＿－9 $=27$ | $2 \times \underline{\text { 6 }}$－$=12$ |
| 1 x ＿ ＿$^{\text {＝}} 2$ | 2 x ＿－7－$=14$ | 1 x ＿－2＿$=2$ | 3 x －$\underline{5}=15$ |
| 3 x －$\underline{5}$－$=15$ | 3 x ＿－$\underline{8}_{-}=24$ | 3 x ＿$\underline{4}=12$ | 3 x ＿彑－$\underline{-}=27$ |
| $2 \times \ldots \underline{6}=12$ | 2 x ＿ 4 ＝ 8 | 2 x ＿$\underline{8}-16$ | 2 x ＿$\underline{\underline{-}}$＝ 4 |
| 3 x － ＿－$^{\text {－}} 21$ | $3 \mathrm{x}-\underline{10}$－$=30$ | 3 x ＿－6－$=18$ | 3 x ＿彑＿8＿$=24$ |
| 2 x －$\underline{-}^{-}=10$ | 2 x － 6 －$=12$ | 2 x ＿－3－$=6$ | 2 x ＿1＿$=2$ |
| $1 \times$＿${ }^{\text {a }}$＝ 1 | 1 x ＿－3 $=3$ | 2 x ＿－$\underline{5}^{-}=10$ | 2 x ＿－$\underline{-}^{\text {c }}=14$ |
| 2 x －$\underline{9}^{-}=18$ | $2 \mathrm{x} \_\underline{11}=22$ | $2 \mathrm{x}-\underline{10}=20$ | 3 x ＿$\underline{4}=12$ |
| 3 x －$\underline{8}_{-}=24$ | $2 \mathrm{x}-\underline{10}=20$ | $2 \mathrm{x}-\underline{12}=24$ | 2 x ＿彑－8 $=16$ |
| $2 \times \underline{3}=6$ | 2 x ［ 4 ＝ 8 | 3 x ＿2＿$=6$ | 2 x ＿－$\underline{\text {－}}=10$ |
| 3 x －$\underline{-}^{-}=15$ | 3 x ＿4－$=12$ | 3 x ＿ 7 ＝ 21 | 3 x ＿－$\underline{-}=21$ |
| $2 \mathrm{x}-4 \_=8$ | 2 x ＿－$\underline{-}^{-} 4$ | $2 \mathrm{x}-\underline{12}=24$ | 2 x ＿彑－$=10$ |
| 3 x ＿1＿$=3$ | 1 x ＿$\underline{\underline{-}}=2$ | 2 x ＿1＿$=2$ | $1 \mathrm{x}_{\underline{3}} \underline{-}=3$ |
| $2 \times \underset{\sim}{2}=4$ | 2 x ＿－$\underline{8}_{-}=16$ | 2 x ＿4＿$=8$ | 2 x ＿－6＿$=12$ |
|  | 3 x －$\underline{3}=9$ | 1 x ＿－2 $=2$ | 3 x ＿$\underline{4}=12$ |
| 2 x － 7 | 1 x ＿1＿${ }_{-}$ | 2 x ＿1＿$=2$ | 3 x ＿＿－$\underline{-}=24$ |
| 3 x －$\underline{\mathbf{q}}^{-}=27$ | 2 x ＿12－$=24$ | 3 x －10－$=30$ | $2 \times \_\underline{12}=24$ |
| 3 x －10－$=30$ | 3 x ＿－9＿$=27$ | 2 x ＿12＿$=24$ | 3 x ＿－$\underline{\mathbf{9}}=27$ |
| 2 x ＿－8＿$=16$ | 2 x ＿－9＿$=18$ | 2 x ＿$\underline{7}_{-}=14$ | 2 x ＿－$\underline{-}=12$ |
| 1 x ＿－${ }_{-}=3$ | 2 x －10＿$=20$ | 3 x ＿－3－9 | $2 \mathrm{x}-\underline{10}=20$ |

## FIND THE MISSING FACTOR - 4, 5, and 6

Directions: Fill in the factor that makes the number sentence mathematically correct.

1 x $\qquad$ $=4$

4 x $\qquad$ $=8$
$6 x$ $\qquad$ $=12$

6 x $\qquad$ $=48$
$4 \mathrm{x} \quad=24$
5 x
4 x $\qquad$ $=8$
$5 \mathrm{x} \ldots=45$
$4 \mathrm{x} \ldots=8$
$4 \mathrm{x} \quad=40$
5 x $\qquad$ $=25$
$6 \mathrm{x} \ldots=36$
4 x $\qquad$ $=24$
4 x $\qquad$ $=20$

5 x $\qquad$ $=20$
$6 x$ $\qquad$ $=6$
$6 x$ $\qquad$ $=18$

5 x $\qquad$ $=30$

6 x $\qquad$ $=36$

4 x $\qquad$ $=4$
$6 x$ $\qquad$ $=24$

4 x $\qquad$ $=12$
$4 x$ $\qquad$ $=40$

5 x $\qquad$ $=50$

4 x $\qquad$ $=16$
1 x $\qquad$ $=6$

5 x $\qquad$ $=5$

5 $=15$ $=18$

1 x $\qquad$ $=6$

5 x $\qquad$ $=15$

4 x $\qquad$ $=12$

4 x $\qquad$ $=24$
$6 x$ $\qquad$ $=54$

5 x $\qquad$ $=10$

4 x $\qquad$ $=28$

5 x $\qquad$ $=35$

6 x $\qquad$ $=54$
$6 x$ $\qquad$ $=42$

1 x $\qquad$ $=5$

4 x $\qquad$ $=16$
5 x $\qquad$ $=35$
$1 \mathrm{x} \ldots=6$
$4 x$ $\qquad$ $=12$

6 x $\qquad$ $=30$

5 x $\qquad$ $=15$
4 x $\qquad$ $=40$
$6 x$ $\qquad$ $=12$
$6 x$ $\qquad$ $=6$

6 x $\qquad$ $=6$ 6 x

4 x $\qquad$ $=8$

5 x $\qquad$ $=30$

5 x $\qquad$ $=40$
$6 x$ $\qquad$ $=54$
5 x $\qquad$ $=30$

1 x
6 x $\qquad$ $=60$
$5 \mathrm{x} \ldots=55$
$6 \mathrm{x} \ldots=54$ 4 x
$6 \mathrm{x} \ldots=18$ 5 x
$4 \mathrm{x} \quad=20$
5 x $\qquad$ $=45$
$6 \mathrm{x} \ldots=48$
$6 x$ $\qquad$ $=54$
4 x $\qquad$ $=12$
$5 \mathrm{x} \ldots=20$
$4 \mathrm{x} \ldots=12$
$5 \mathrm{x} \ldots{ }^{=}=15$
$6 x \ldots=24$
$4 \mathrm{x} \ldots=16$
$6 x \ldots=6$
$5 x \ldots=50$
$5 \mathrm{x} \quad=10$
$6 x \ldots=66$
4 x $\qquad$ $=24$
$5 \mathrm{x} \ldots=10$
$6 x$ $\qquad$ $=48$

1 x $\qquad$ $=5$
$6 x$ $\qquad$ $=18$
4 x $\qquad$ $=12$
1 x $\qquad$ $=5$
$5 \mathrm{x} \ldots=45$
$5 x \ldots=5$
$6 x \ldots=24$
$5 \mathrm{x} \ldots=30$
$6 x \ldots=54$
4 x
$6 \mathrm{x} \ldots=36$
5 x $\qquad$ $=25$

5 x $\qquad$ $=25$

6 x $\qquad$ $=54$
$6 x$ $\qquad$ $=54$

## FIND THE MISSING FACTOR－4，5，and 6

Directions：Fill in the factor that makes the number sentence mathematically correct．

| 1 x ＿$\underline{\text {＿}}=4$ | 5 x ＿1＿$=5$ | 6 x ＿＿－${ }_{\text {2 }}=12$ | 6 x ＿1＿$=6$ |
| :---: | :---: | :---: | :---: |
| 4 x －2＿$=8$ | 4 x ＿彑－6＿$=24$ | 6 x ＿－1 $=6$ | 6 x ＿－$\underline{5}=30$ |
| 6 x ＿－2＿$=12$ | 6 x －$\underline{8}_{\text {8 }}=48$ | 4 x ＿－2 $=8$ | 5 x ＿－$\underline{\text { 6 }}=30$ |
| $5 \times \ldots \underline{3}=15$ | 4 x ＿－6＿$=24$ | 5 x ＿＿彑 $\underline{8}=40$ | 6 x ＿－$\underline{9}_{-}=54$ |
| 6 x －$\underline{3}_{-}=18$ | 5 x － 6 －$=30$ | 5 x ＿＿彑－$=30$ | 6 x －10＿$=60$ |
| $1 \mathrm{x}-\underline{6}=6$ | 4 x ＿－2＿$=8$ | 1 x ＿－6 $=6$ | 5 x ＿11 $=55$ |
| 5 x ＿－$\underline{3}_{\text {＿}}=15$ | 5 x ＿－$\underline{8}_{-}=45$ | 6 x ＿－$\underline{\mathbf{9}}=54$ | 4 x －$\underline{5}=20$ |
| $4 \times \underline{3}-12$ | 4 x ＿－2＿$=8$ | 6 x ＿－$\underline{3}^{\text {c }}=18$ | 5 x ＿－$\underline{-}_{-}=40$ |
| $4 \times \underline{6}$－$=24$ | 4 x ＿ 10 ＿$=40$ | 4 x ＿－$\underline{5}=20$ | 5 x ＿彑－${ }_{-}=45$ |
| $6 \times \underline{3}-54$ | 5 x －$\underline{5}=25$ | 6 x ＿彑－$\underline{8}=48$ | 6 x ＿彑－$\underline{-}=54$ |
| $5 \times \ldots 2$ | 6 x ＿－6 $=36$ | 4 x ＿－$\underline{3}^{-}=12$ | 4 x ＿－$\underline{3}^{-}=12$ |
| $4 \mathrm{x}-\underline{5}$－$=20$ | 4 x ＿6＿$=24$ | 5 x ＿－4＿$=20$ | 5 x ＿－$\underline{3}_{-}=15$ |
| 5 x － 4 ＿$=20$ | 4 x ＿－7－$=28$ | 6 x ＿ 4 ＿$=24$ | 4 x ＿ $4 \underline{=} 16$ |
| $6 \times \underline{1}=6$ | 5 x ［－7－35 | 6 x ＿1－$=6$ | $5 \mathrm{x}-\underline{10}=50$ |
| $6 \times \underline{3}=18$ | 6 x ＿－$\underline{\underline{9}}=54$ | 5 x ＿－2＿$=10$ | 6 x －11 $=66$ |
| 5 x －$\underline{6}=30$ | 6 x ＿－Z $=42$ | 4 x ＿－6＿$=24$ | 5 x ＿工＿－$=10$ |
| $6 \times \underline{6}=36$ | 1 x －$\underline{5}=5$ | 6 x ＿＿彑－$=48$ | 1 x ＿－5 $=5$ |
| $4 \times \ldots \underline{1}=4$ | 4 x ＿ 4 ＝ 16 | 6 x ＿－$\underline{3}^{\text {c }}=18$ | 4 x ＿－$\underline{3}^{=} 12$ |
| $6 \times \ldots 4$ | 5 x ＿－Z $=35$ | 1 x ＿－$\underline{5}=5$ | 5 x ＿彑－${ }_{-}=45$ |
| 4 x ＿$\underline{3}^{-}=12$ | 1 x ＿－6－$=6$ | 5 x ＿1＿$=5$ | 6 x ＿ 4 － 24 |
| $4 \mathrm{x}-\underline{10}=40$ | 4 x ＿－3＿$=12$ | 5 x ＿－6＿$=30$ | 6 x ＿－9＿$=54$ |
| $5 \times \ldots \underline{10}=50$ | $6 \times$－$\underline{5}_{-}=30$ | 4 x －$\underline{3}_{-}=24$ | 6 x ＿－$\underline{6}=36$ |
| $4 \times 2 \underline{2}_{-}=16$ | $5 \mathrm{x}-\underline{3}-{ }^{\text {a }}=15$ | 5 x ＿－$\underline{5}=25$ | 5 x －$\underline{5}=25$ |
| 1 x ＿－6＿$=6$ | $4 \times$－10 $=40$ | 6 x ＿彑－$\underline{9}=54$ | $6 \mathrm{x}-\underline{9}=54$ |

## FIND THE MISSING FACTOR - 7, 8, and 9

Directions: Fill in the factor that makes the number sentence mathematically correct.

1 x
$7 x$ $\qquad$ $=7$

8 x $\qquad$ $=16$

7 x $\qquad$ $=14$

9 x $\qquad$ $=18$

1 x $\qquad$ $=8$

8 x $\qquad$ $=24$

7 x
8 x $\qquad$ $=24$

9 x $\qquad$ $=36$

7 x ___ $=70$
7 x $\qquad$ $=21$

8 x $\qquad$ $=32$

7 x
9 x $\qquad$ $=90$

9 x $\qquad$ $=54$

7 x $\qquad$ $=42$

9 x $\qquad$ $=9$
$7 x$ $\qquad$ $=56$

8 x $\qquad$ $=56$

8 x $\qquad$ $=72$

7 x $\qquad$ $=49$

8 x $\qquad$ $=16$
1 x $\qquad$ $=9$
$9 x \quad=9$
$7 \mathrm{x} \quad=28$
$8 \mathrm{x} \quad=48$
$7 x \quad=28$
$8 \mathrm{x} \quad=64$
7 x
$9 x \_=45$
7 x
$9 x \quad=63$
7 x
$8 \mathrm{x} \quad=32$
$9 x \quad=27$
$7 x \ldots=28$
8 x
$7 x$
$9 \mathrm{x} \quad=54$
1 x $\qquad$ $=9$
$7 x \quad=42$
$9 x \_=90$
1 x
8 x
7 x $\qquad$ $=63$

8 x $\qquad$ $=64$
$7 x \ldots=35$
$9 \mathrm{x} \quad=18$
7 x $\qquad$ $=63$

7 x
8 x $\qquad$ $=56$
$9 \mathrm{x} \quad=18$
7 x $\qquad$ $=49$
$7 x \quad=49$
9 x $\qquad$ $=54$
$8 \mathrm{x} \quad=80$
7 x $\qquad$ $=70$

1 x $\qquad$ $=7$
$7 \mathrm{x} \quad=14$
$8 \mathrm{x} \quad=32$
7 x $\qquad$
7 x
8 x
9 x $\qquad$ $=45$
7 x $\qquad$ $=49$

7 x $\qquad$ $=7$
8 x $\qquad$ $=64$

9 x
9 x $\qquad$ $=81$
8 x $\qquad$ $=72$

7 x
$8 \mathrm{x} \quad=24$
$\qquad$
$8 \mathrm{x} \quad=24$
$8 \mathrm{x} \quad=16$
$7 x \_=77$
$\qquad$
$7 x \_=77$
9 x $\qquad$ $=27$
$8 x \_=16$
$\qquad$
$8 \mathrm{x} \quad=16$
8 x $\qquad$ $=48$

1 x $\qquad$ $=8$
7 x $\qquad$ $=35$
$7 x$ $\qquad$ $=70$

1 x
7 x
$7 x \ldots=7$
$8 x \_=24$
$7 x$
$7 x$
$8 \mathrm{x} \quad=24$
8 x $\qquad$ $=56$
9 x $\qquad$ $=63$
$7 x$ $\qquad$ $=49$
8 x $\qquad$ $=64$
$8 \mathrm{x} \quad=88$
$6 \mathrm{x} \quad=18$

8 x ___ $=80$
7 x

## FIND THE MISSING FACTOR－7，8，and 9

Directions：Fill in the factor that makes the number sentence mathematically correct．

| 1 x ＿－7＿$=7$ | $9 \mathrm{x} \_\underline{1}=9$ | 9 x ＿－2 $=18$ | 7 x ＿－$\underline{\mathbf{9}}=63$ |
| :---: | :---: | :---: | :---: |
| 7 x ＿－1＿$=7$ | 7 x ＿ 4 －$=28$ | 7 x ＿＿ $\mathbf{1}_{-}=7$ | $8 \mathrm{x} \_\underline{7}=56$ |
| 8 x ＿工＿－$=16$ | $8 \times-\underline{6}=48$ | 9 x ＿－2 $\underline{-}^{=} 18$ | 7 x ＿－$\underline{7}_{-}=49$ |
| 7 x ＿工＿－＿$=14$ | 7 x ＿ 4 ＝ 28 | 7 x ＿－7＿$=49$ | 9 x ＿－6＿$=54$ |
| 9 x ＿－2＿$=18$ | 8 x －$\underline{8}_{-}=64$ | 8 x －10－$=80$ | 7 x ＿10＿$=70$ |
| 1 x ＿－8－$=8$ | 7 x ＿1＿$=7$ | 1 x ＿－7－$=7$ | 8 x ＿11＿$=88$ |
| 8 x ＿－3＿$=24$ | 9 x ＿＿－${ }_{\text {5 }}=45$ | 7 x ＿－2 $=14$ | 6 x ＿－$\underline{3}=18$ |
| 7 x ＿－3－$=21$ | 7 x ＿＿2＿$=14$ | 8 x ＿－4＿$=32$ | 7 x ＿＿－${ }_{-}=49$ |
| 8 x －$\underline{3}_{-}=24$ | 9 x ＿－2＿$=63$ | 8 x ＿－3 ${ }_{-}=24$ | 9 x ＿－$\underline{5}^{-}=45$ |
| 9 x ＿－4＿$=36$ | $7 \times \underline{10}=70$ | 7 x ＿－7 ${ }_{-}=49$ | 7 x ＿－1 $=7$ |
| $7 \times \underline{10}=70$ | 8 x ＿－4＿$=32$ | 8 x ＿－$\underline{8}_{-}=64$ | 9 x ＿－$\underline{\mathbf{9}-}=81$ |
| 7 x －$\underline{3}_{-}=21$ | $9 \times$＿－3－$=27$ | 9 x －$\underline{8}_{-}=72$ | 8 x ＿10－$=80$ |
| $8 \times$－ 4 －$=32$ | $7 \times$＿4＿$=28$ | 8 x ＿－$\underline{\mathbf{9}}=72$ | 7 x ＿－$\underline{-}_{-}=14$ |
| $7 \times$＿6＿$=42$ | 8 x ＿－$\underline{8}=64$ | 7 x ＿ －$^{\text {a }}=49$ | 8 x ＿－3－24 |
| $9 \times \underline{10}=90$ | 7 x ＿－$\underline{\mathbf{9}}=63$ | 8 x ＿2＿$=16$ | 7 x ＿11＿$=77$ |
| $9 \times \underline{6}=54$ |  | 9 x －$\underline{3}^{-}=27$ | 8 x ＿工－${ }_{-}=16$ |
| 7 x ＿$\underline{Z}^{\text {c }}=42$ | 1 x ＿－$\underline{9}=9$ | 8 x ＿－6＿$=48$ | 1 x ＿$\underline{8}=8$ |
| $9 \times \ldots \underline{2}=9$ | 7 x ＿彑 $\underline{6}=42$ | 7 x ＿－$\underline{5}=35$ | 7 x ＿10 $=70$ |
| 7 x －$\underline{8}^{-}=56$ | $9 \times-\underline{10}=90$ | 1 x ＿－$\underline{9}^{=} 9$ | 7 x ＿－$\underline{8}_{-}=56$ |
| 8 x － 7 $^{\text {－}}=56$ | 1 x ＿－$\underline{8}^{=} 8$ | 7 x ＿1＿$=7$ | 8 x ＿－3－$=24$ |
| 8 x －$\underline{9}^{\text {－}}=72$ | $8 \times \underline{7}=56$ | $7 \times$－$\underline{5}^{=}=35$ | 7 x －$\underline{5}^{-}=35$ |
| 7 x － 7 $_{-}=49$ | 7 x －$\underline{9}^{\text {＿}}=63$ | $8 \times$＿－3－$=24$ | 8 x ＿－7－$=56$ |
| $8 \times \underset{-2}{ }=16$ | 8 x － 8 $^{\text {－}}=64$ | 9 x ＿－7 ${ }_{-}=63$ | 7 x ＿－$\underline{Z}_{-}=49$ |
| 1 x ＿－9＿$=9$ | 7 x ＿＿$\underline{5}=35$ | 8 x ＿＿$\underline{8}_{-}=64$ | 8 x ＿彑－9＿$=72$ |

