Green foldable paper for add/sub/mult/div decimals.

Green SLOT booklet
6.NS.A3

S.L.O.T. booklet 6.NS.A.3

Fluently add, subtract, multiply and divide DECIMALS using standard algorithm.

Problems are written horizontally. Students are to write them vertically. On page 2 of the student work, the division problems are written horizontally and the standard way, but not on the next pages.

The red boxes can be lifted to check the solutions.

10 possible points for the Green SLOT booklet

7	all problems are solved
1	neatness
1	notes at the beginning
1	check all sub and division
10	total

Due Monday
Quiz Monday

Solve these problems. Remember, its always a good idea to estimate your answer first.

136.04 + 102.27 → 136.04
+102.27
238.31

Write in vertical column, aligning the decimal points.

Add each column, starting on right. Carry digits when needed.

2.37 - 0.031 → 6
2.370
- 0.031
2.339

Write in vertical column, aligning the decimal points.

Subtract each column, starting on right and working left. Borrow as needed.

Bring your decimal straight down

Hint

Adding and subtracting decimals

New Problem

In order to become skilled in mathematics you need to practice!

Do the addition or subtraction, and type your answer in the box. Try it first without the calculator, using pencil and paper.

11 1
253.085
- 24.892
228.193

Try a workout of 10 problems. If you get at least 8 correct on your first attempt, then you're ready to move on. If not, review "In Depth" and try again.

Multiplying decimals

To multiply decimal numbers:

1. Multiply the numbers just as if they were whole numbers.

   - Line up the numbers on the right - **do not align the decimal points**.
   - Starting on the right, multiply each digit in the top number by each digit in the bottom number, just as with whole numbers.
   - Add the products.

2. Place the decimal point in the answer by starting at the right and moving a number of places equal to the sum of the decimal places in both numbers multiplied.

$3.77 \times 2.8 = ?$

$$
\begin{array}{rl}
 & 3.77 \ (2 \text{ decimal places}) \\
\times & \underline{2.8} \ (1 \text{ decimal place}) \\
 & 3016 \\
 & +754 \\
\hline
 & 10.556 \ (3 \text{ decimal places})
\end{array}
$$

Find this quotient:

$16.9 \div 6.5$

First show the division like this:

$$6.5\overline{)16.9}$$

Now move the decimal point one place to the right, which makes the divisor a whole number. Also move the decimal point in the dividend one place to the right:

$$65\overline{)169.}$$

Divide as whole numbers. 65 goes into 169 two times with 39 left over:

$$\begin{array}{r} 2 \\ 65\overline{)169.} \\ -\,130 \\ \hline 39 \end{array}$$

To continue dividing, add a zero to the right of the decimal point in the dividend. Then bring down the zero, and add it to the end of 39, making it 390

$$\begin{array}{r} 2 \\ 65\overline{)169.0} \\ -\,130 \\ \hline 390 \end{array}$$

65 goes into 390 six times. We write a 6 above the zero in the quotient and put the decimal point just above the decimal point in the dividend:

$$\begin{array}{r} 2.6 \\ 65\overline{)169.0} \\ -\,130 \\ \hline 390 \\ -\,390 \\ \hline 0 \end{array}$$

To check our answer, we multiply the quotient by the divisor and make sure it equals the dividend:

$$\begin{array}{r} 2.6 \\ \times 6.5 \\ \hline 130 \\ +156 \\ \hline 16.90 \end{array}$$

ADD

Line up the Decimals
Carry it straight down.

MULTIPLY

Count the number of places after the decimals of the factors.

Have the same number of places after the decimal in the product.

SUBTRACT

Line up the decimals.
Carry it straight down.

DIVIDE

Move the decimal in the dividend the same number of spaces you moved it in the divisor.

$$
\begin{array}{r}
1.27 \\
\times\ .11 \\
\hline
127 \\
1270 \\
\hline
.1397
\end{array}
$$

There are 2 place values after the decimal.

There are 2 place values after the decimal.

NO decimals in the partial products.

(2 + 2 = 4) There should be 4 place values after the decimal.

(1)

Add

25.7 + 82.1

25.7
+ 82.1

40.2 + 8.7

Multiply

(2)

123 x 8.5

42.1 x 74

Subtract

4.83 - 2.21

48.1 - 39.9

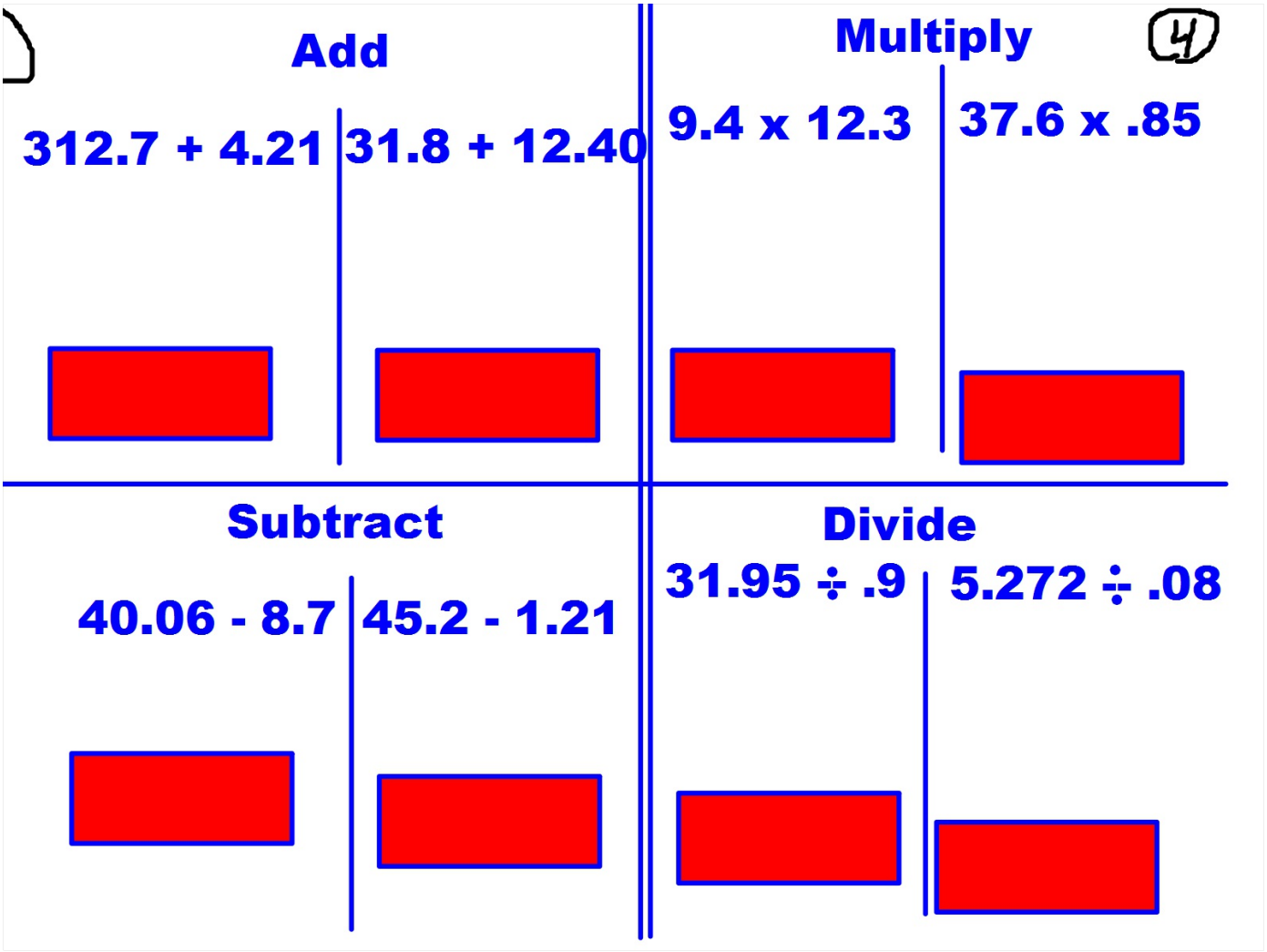
Divide

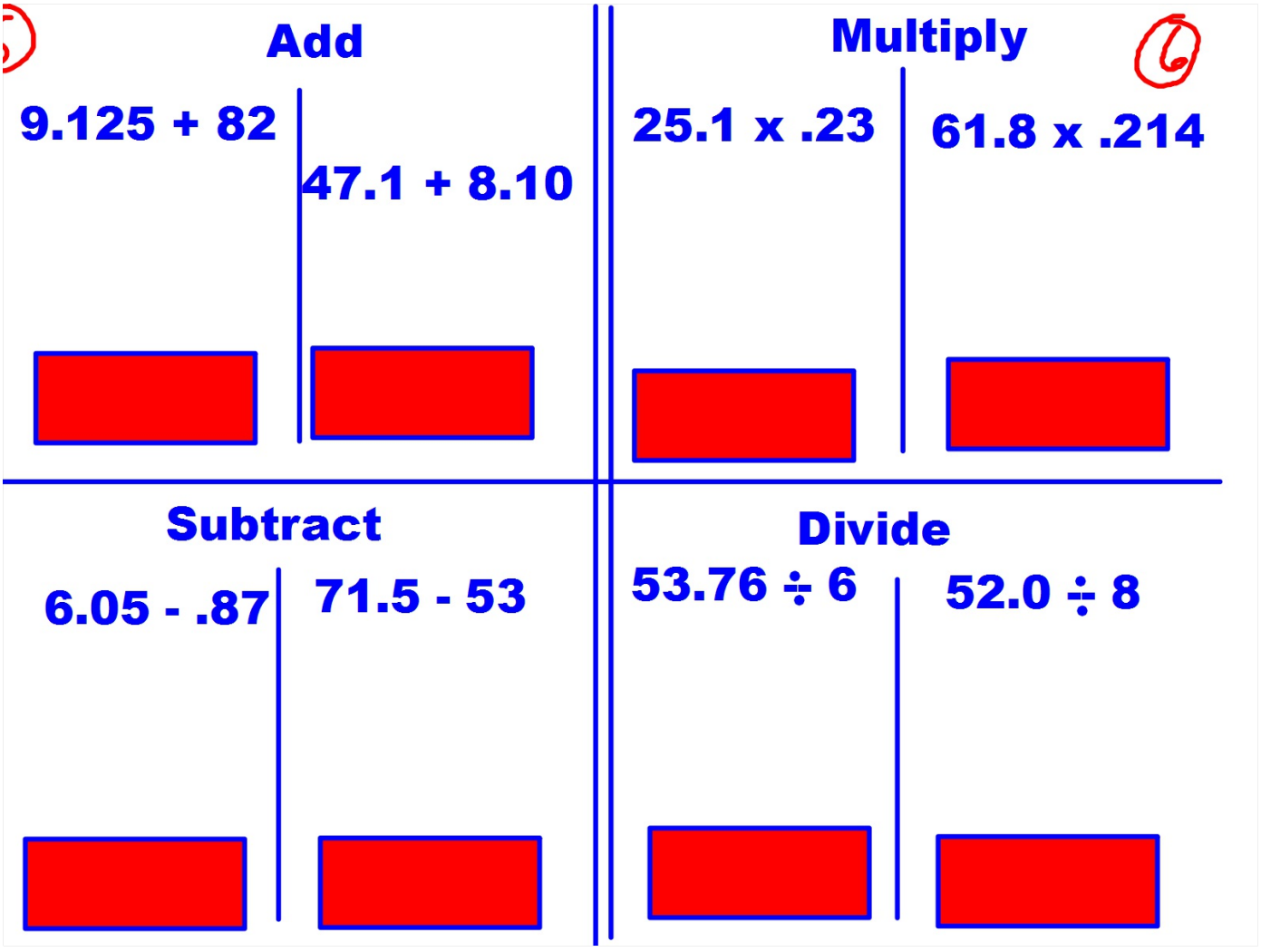
51.24 ÷ 6

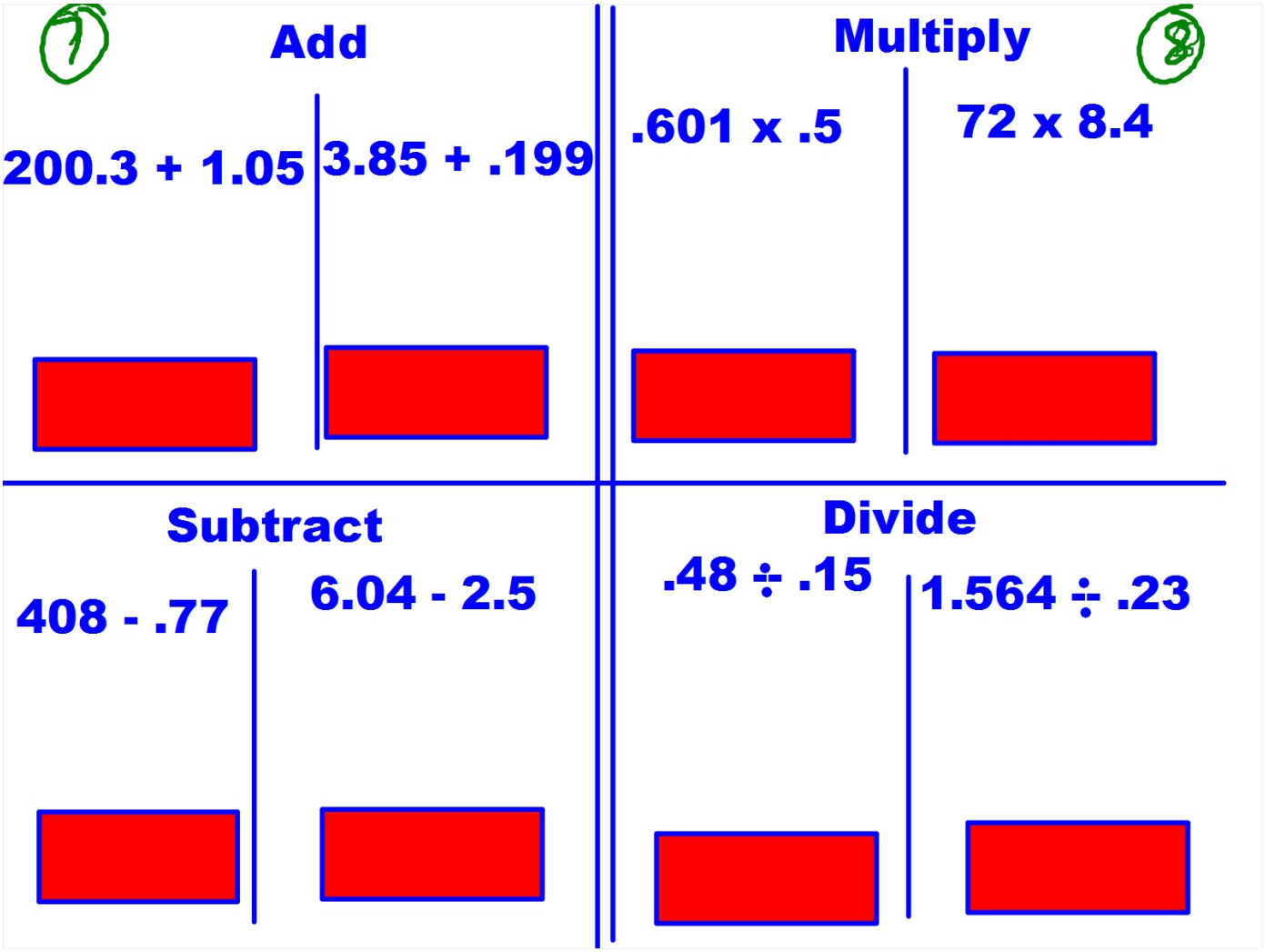
$6\overline{)51.24}$

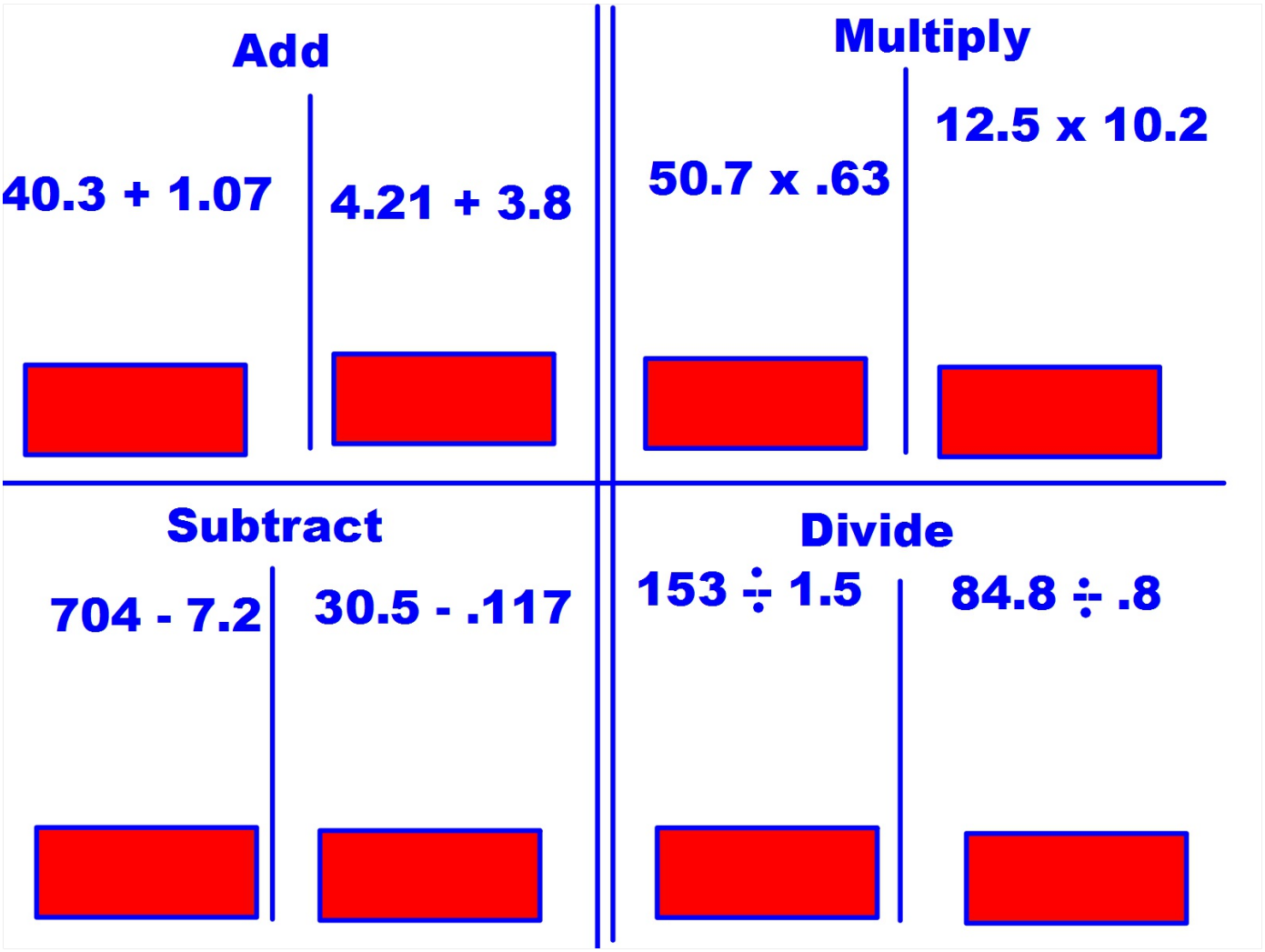
4.34 ÷ 7

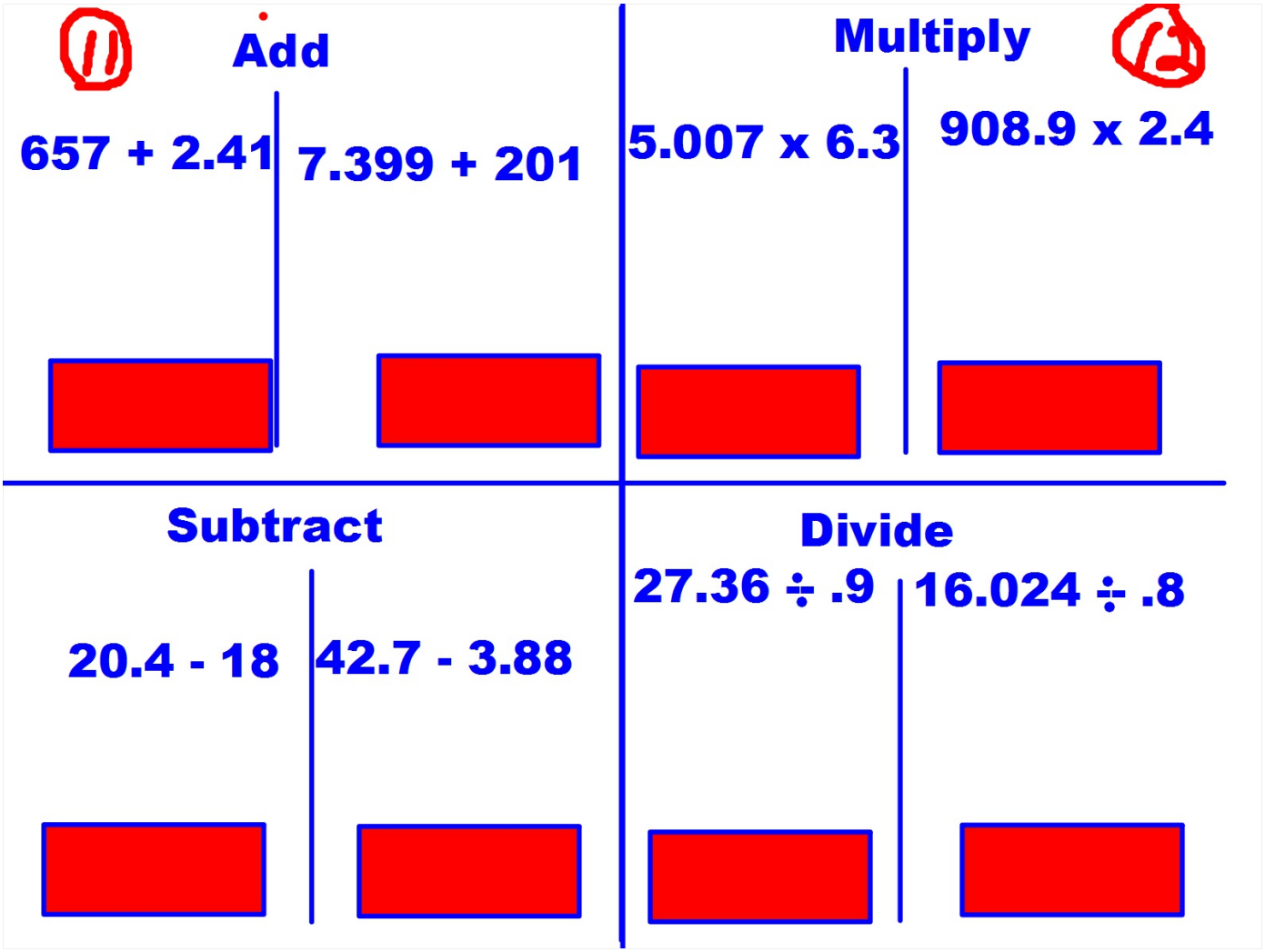
$7\overline{)4.34}$


Add
312.7 + 4.21
31.8 + 12.40
Multiply
4
9.4 x 12.3
37.6 x .85
Subtract
40.06 - 8.7
45.2 - 1.21
Divide
31.95 ÷ .9
5.272 ÷ .08


Add
9.125 + 82
47.1 + 8.10
Multiply
25.1 x .23
61.8 x .214
Subtract
6.05 - .87
71.5 - 53
Divide
53.76 ÷ 6
52.0 ÷ 8


1
Add
200.3 + 1.05
3.85 + .199
Multiply
8
.601 x .5
72 x 8.4
Subtract
408 - .77
6.04 - 2.5
Divide
.48 ÷ .15
1.564 ÷ .23


Add
40.3 + 1.07
4.21 + 3.8
Multiply
50.7 x .63
12.5 x 10.2
Subtract
704 - 7.2
30.5 - .117
Divide
153 ÷ 1.5
84.8 ÷ .8


11
Add
657 + 2.41
7.399 + 201
Multiply
12
5.007 x 6.3
908.9 x 2.4
Subtract
20.4 - 18
42.7 - 3.88
Divide
27.36 ÷ .9
16.024 ÷ .8

13

Add

3.99 + .477

320.7 + .998

14

Multiply

10.2 x .63

.602 x .102

Subtract

1.010 - .289

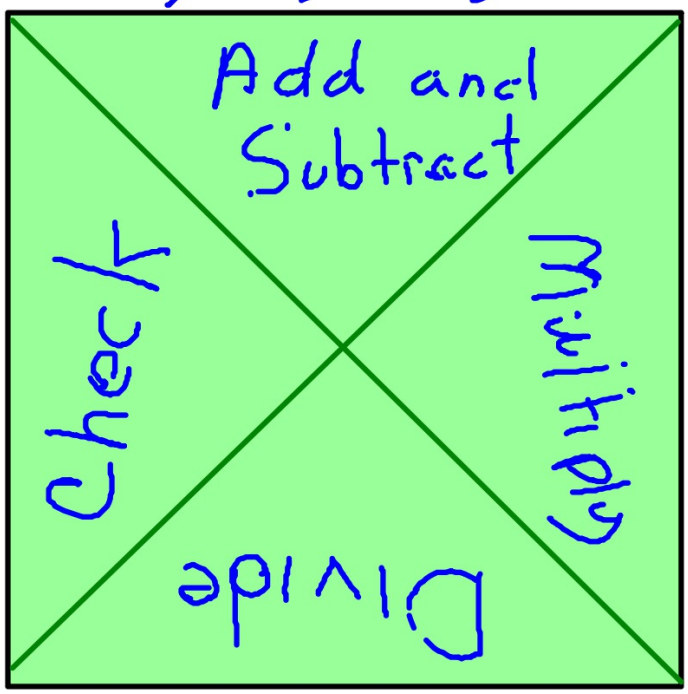
40.8 - 3.75

Divide

1809. ÷ .9

7021 ÷ .8

Add, Sub, Mult, Div DECIMALS

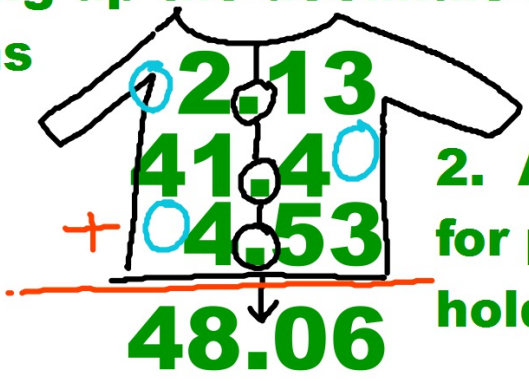


p9 40

See green SLOT Booklet for examples.

2.13 + 41. 4 + 4.53 = 48.06

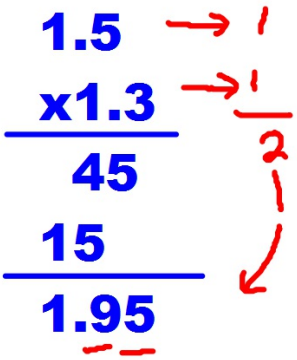
1. Rewrite the problem vertically lining up the decimals like buttons on a shirt.



2. Add zeros for place holders.

3. Bring the decimal straight down keeping the columns and place values lined up.

1. Multiply like there are no decimals. (DO NOT line up decimals like add/sub.)
2. Where to place the decimal:
   a. In each factor, count the number of place values to the right of the decimal. Add those up.
   b. That is the number of digits there are to be after the decimal in the product.



4.81 ÷ 3.2

1. Rewrite the division problem like

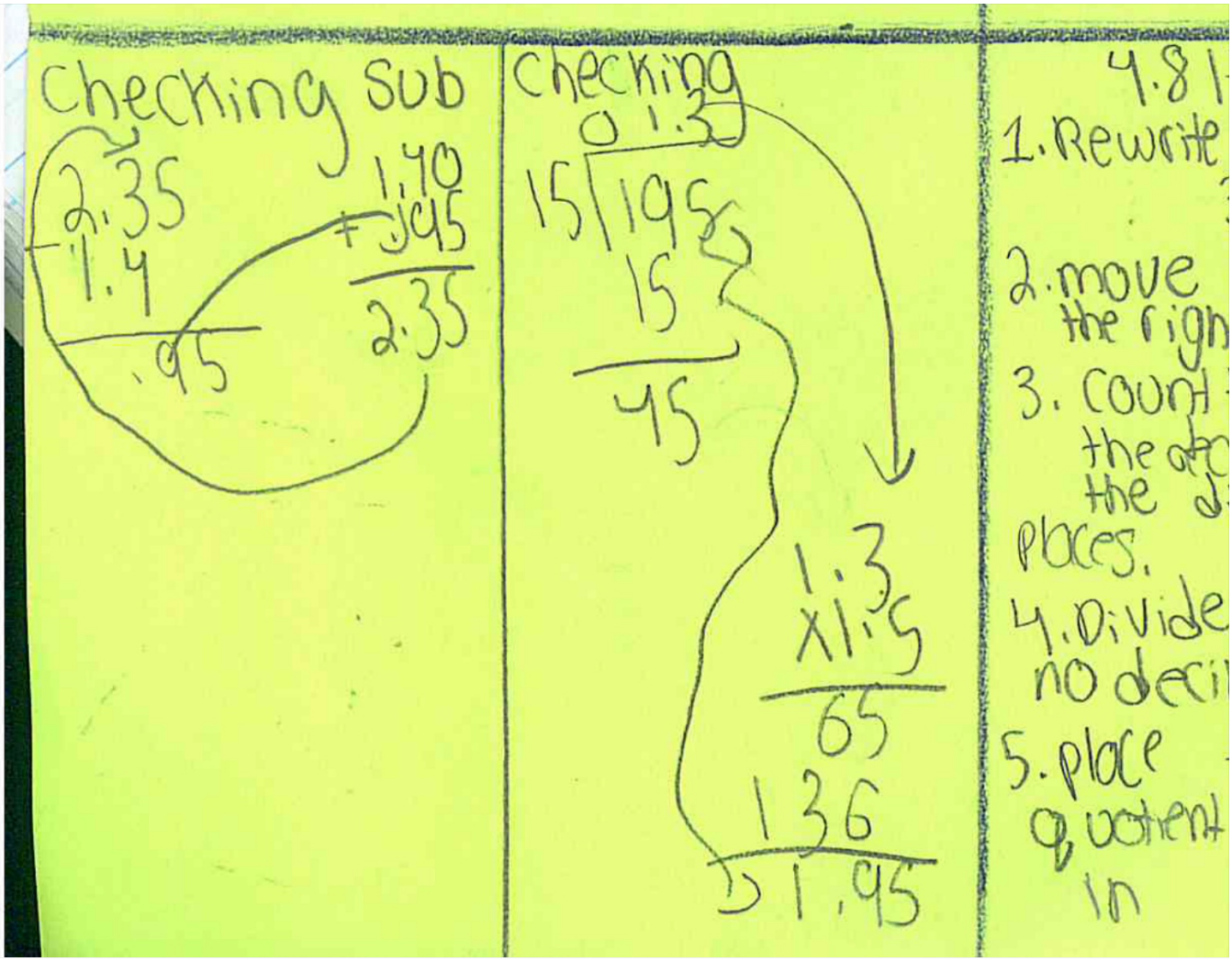
$$3.2\overline{)4.81}$$

2. Move the decimal in the divisor to the right so it's a whole number.

3. Count the number of places you moved the decimal and move the decimal in the dividend the same number of places.

4. Divide the numbers as if there are no decimals

5. Place the decimal point in the quotient directly above the one in the dividend.


Checking Sub
2.35
- 1.4
.95
1.40
+ .95
2.35
Checking
0 1.3
15 | 195
15
45
1.3
x 1.5
65
136
1.95
4.8 I
1. Rewrite
2. move
the righ
3. count
the de
the d
places.
4. Divide
no deci
5. place
q uotient
in