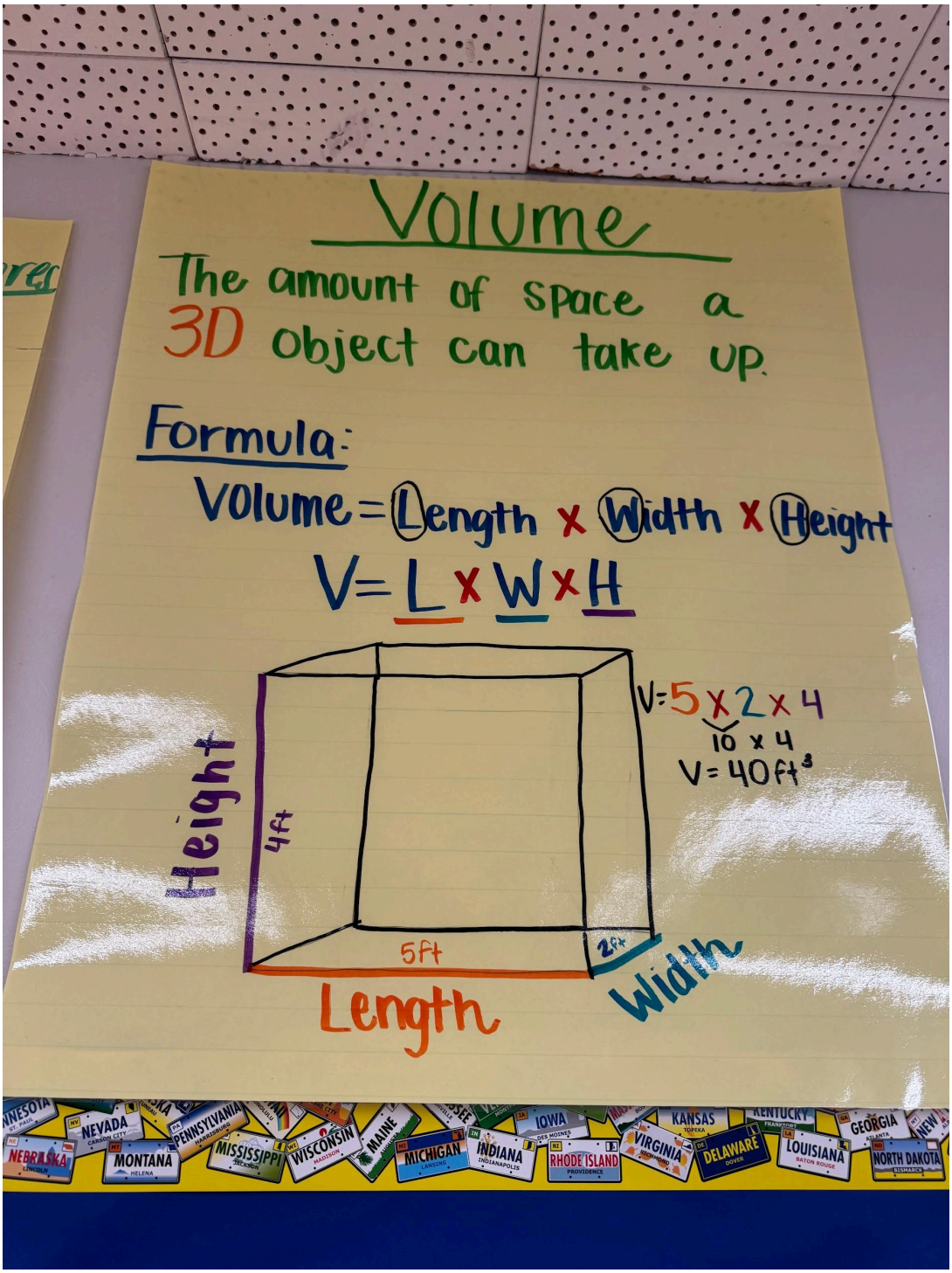
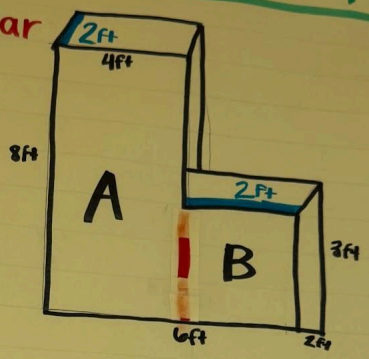
Tab 1

Unit 2 Volume:



Volume of Composite figures

1. Split into 2 rectangular Prisms (boxes).
2. Determine missing numbers.
3. Find the volume of both Prisms.
4. Add both volumes together.



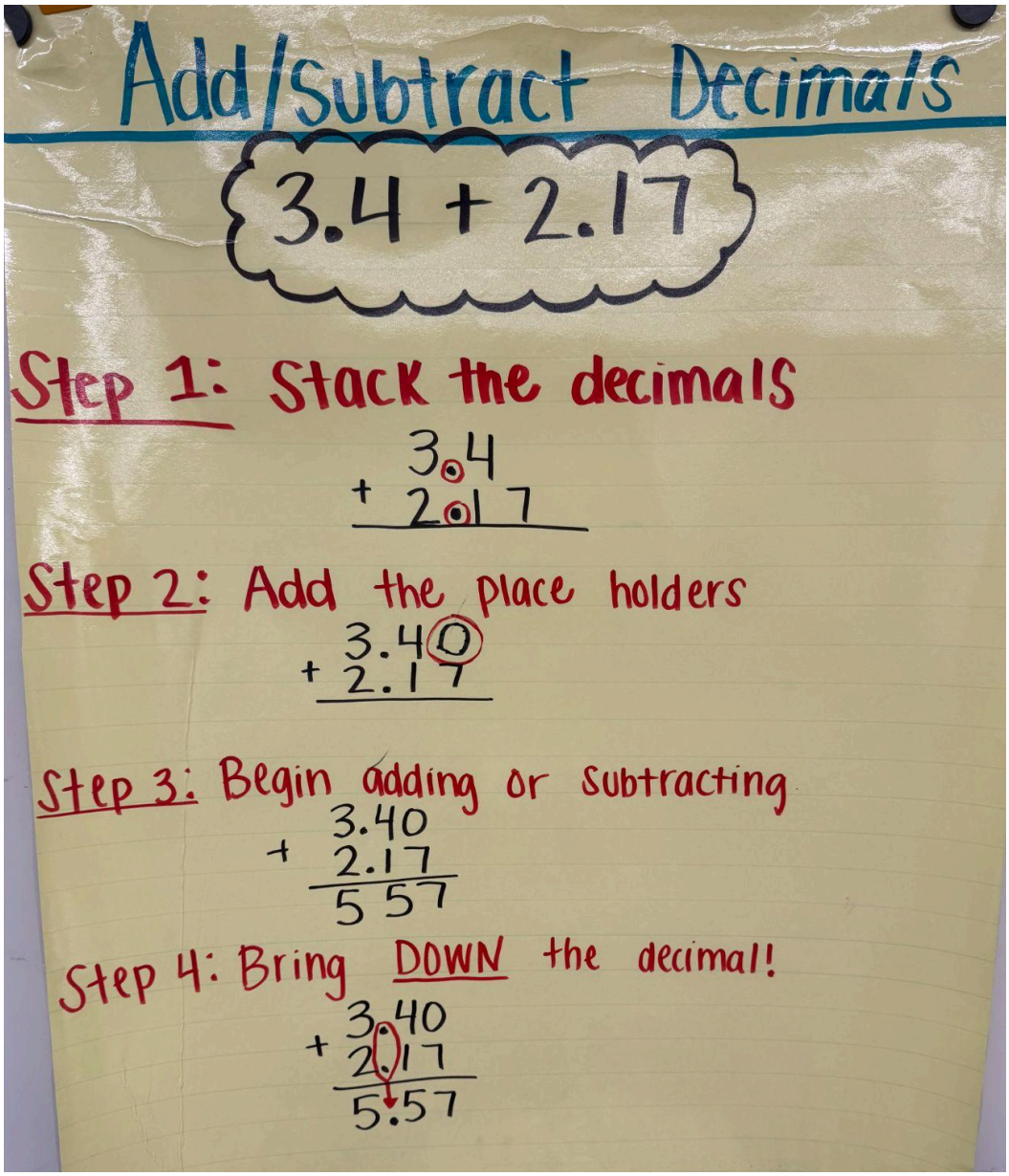
Volume of A:
$V = 8 \times 4 \times 2$
8×8
$V = 64$

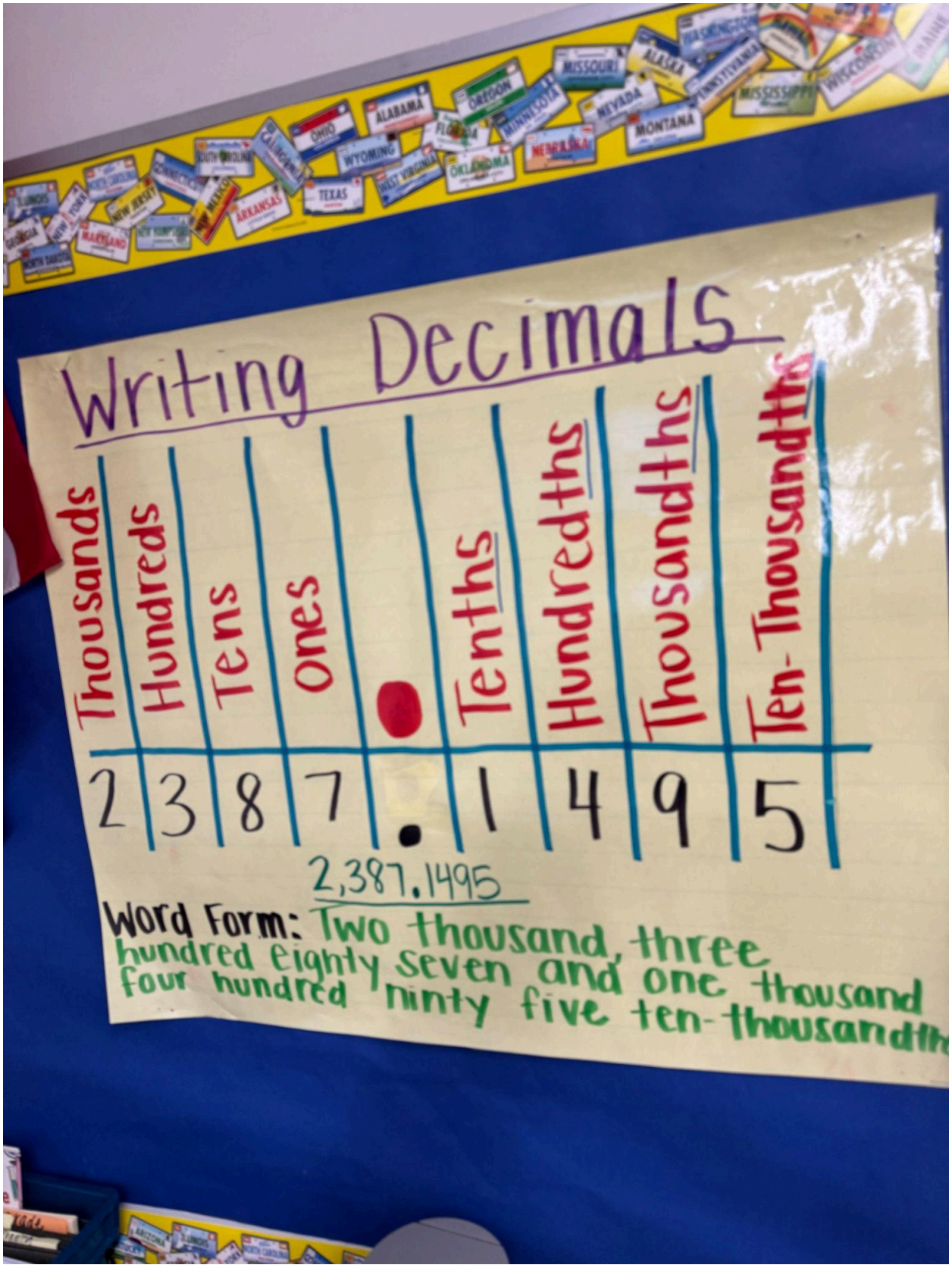
Volume of B:
$V = 2 \times 3 \times 2$
6×2
$V = 12$

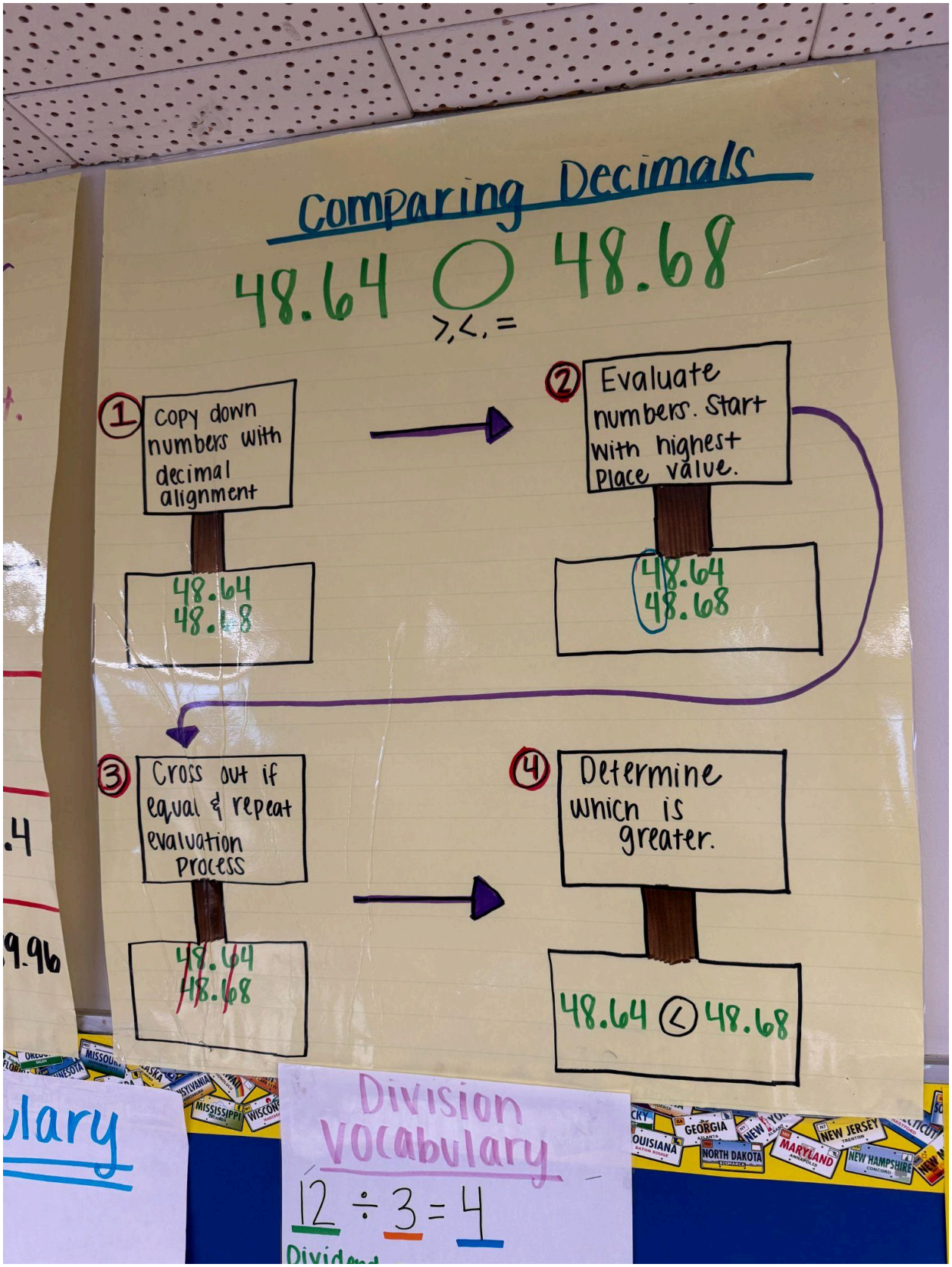
$V = 64 + 12$
$V = 76 ft^3$

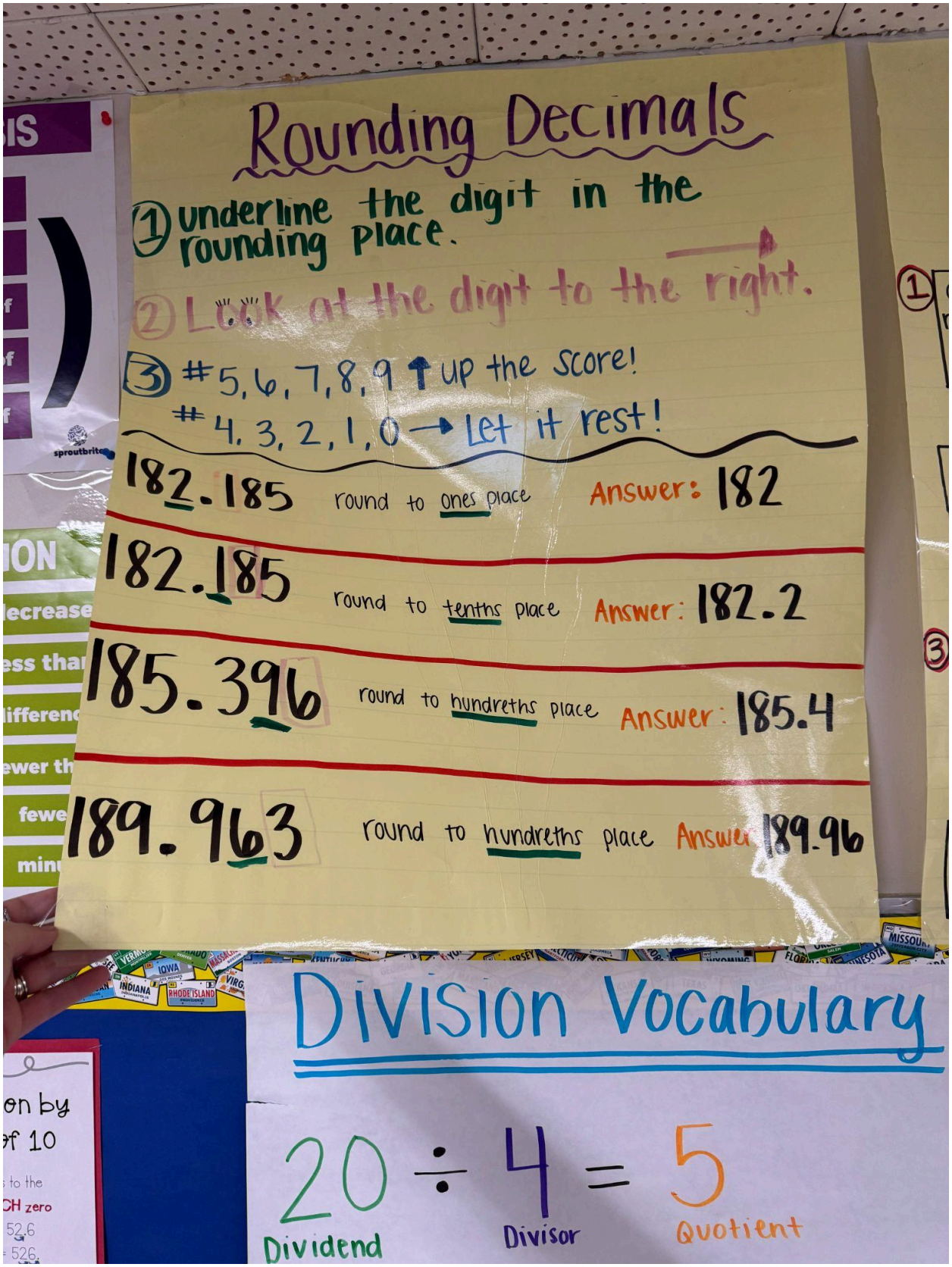
x10 x10 x10

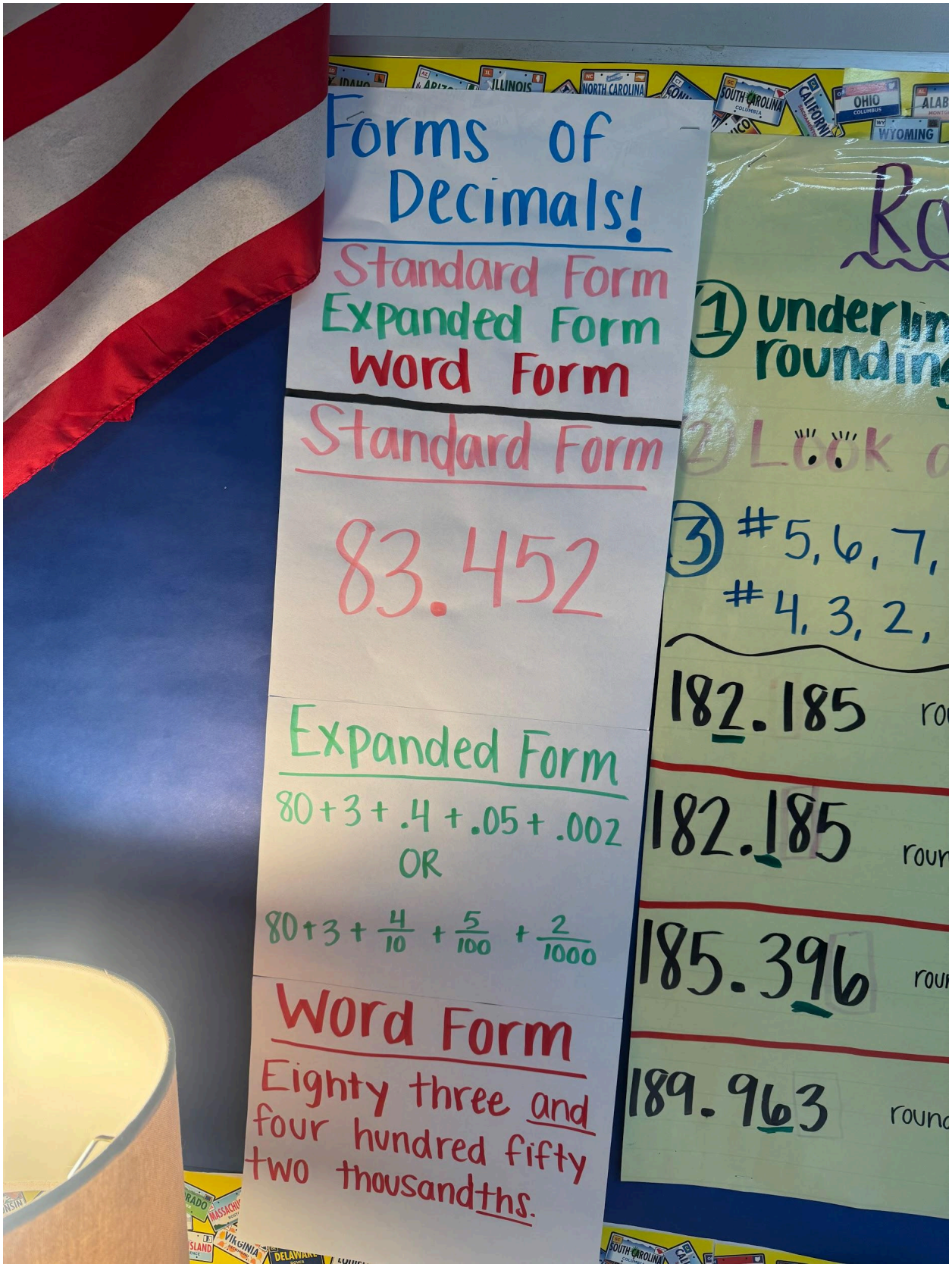
Unit 3-4 Decimals:

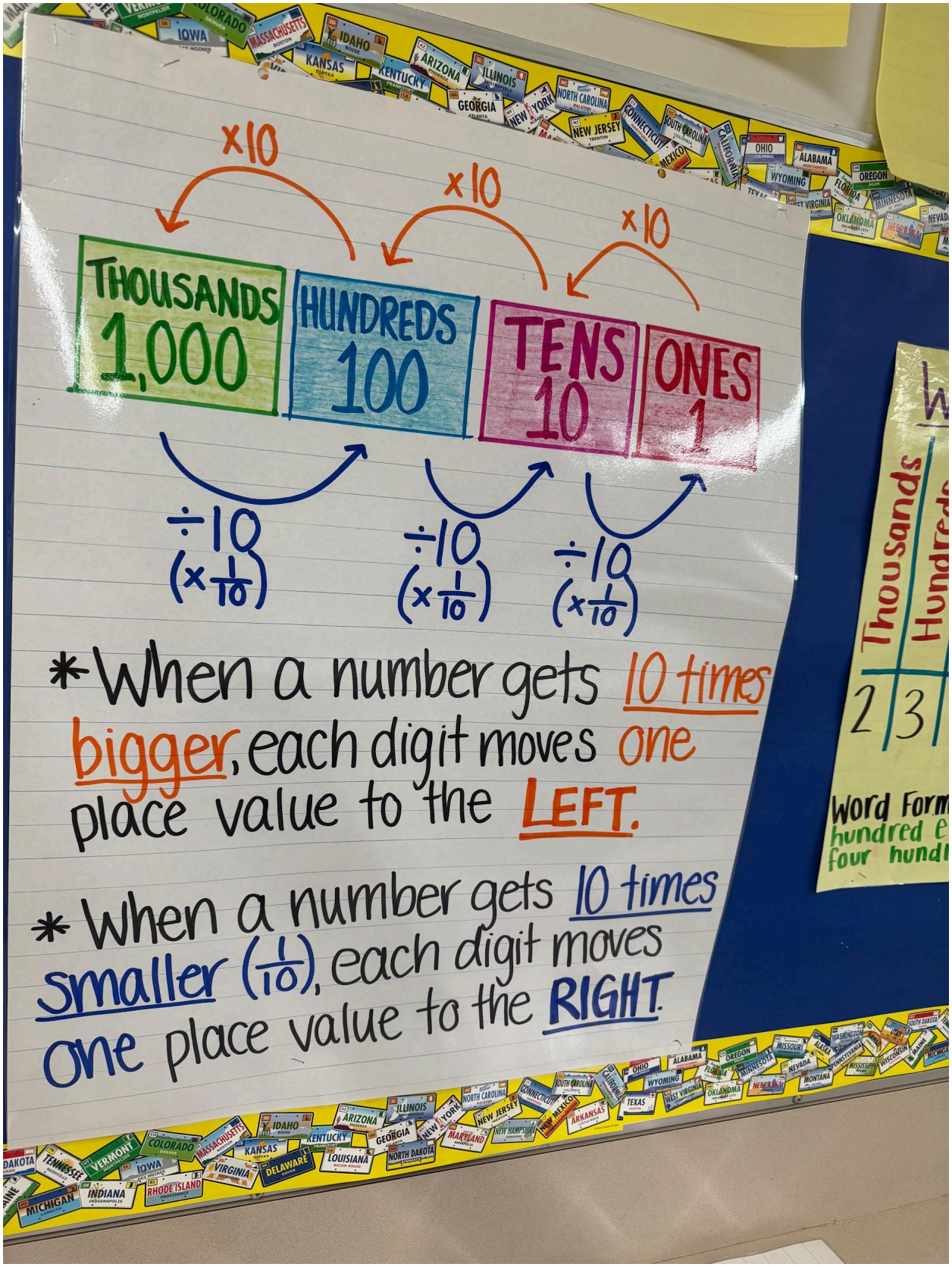



Writing Decimals
Thousands
Hundreds
Tens
Ones
Tenths
Hundredths
Thousandths
Ten-Thousandths
2 3 8 7 . 1 4 9 5
2,387.1495
Word Form: Two thousand, three hundred eighty seven and one thousand four hundred ninty five ten-thousandth

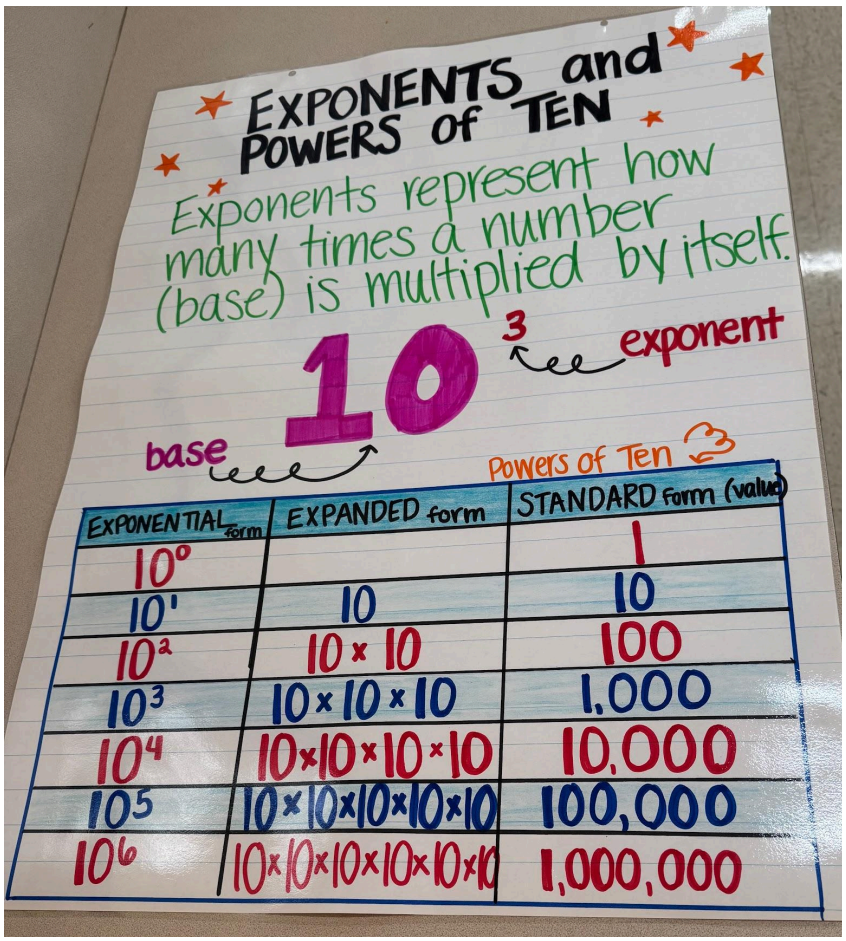

Comparing Decimals
48.64 ○ 48.68
>, <, =
1 Copy down numbers with decimal alignment
48.64
48.68
2 Evaluate numbers. Start with highest place value.
48.64
48.68
3 Cross out if equal & repeat evaluation process
48.64
48.68
4 Determine which is greater.
48.64 < 48.68
Division Vocabulary
12 ÷ 3 = 4
Dividend

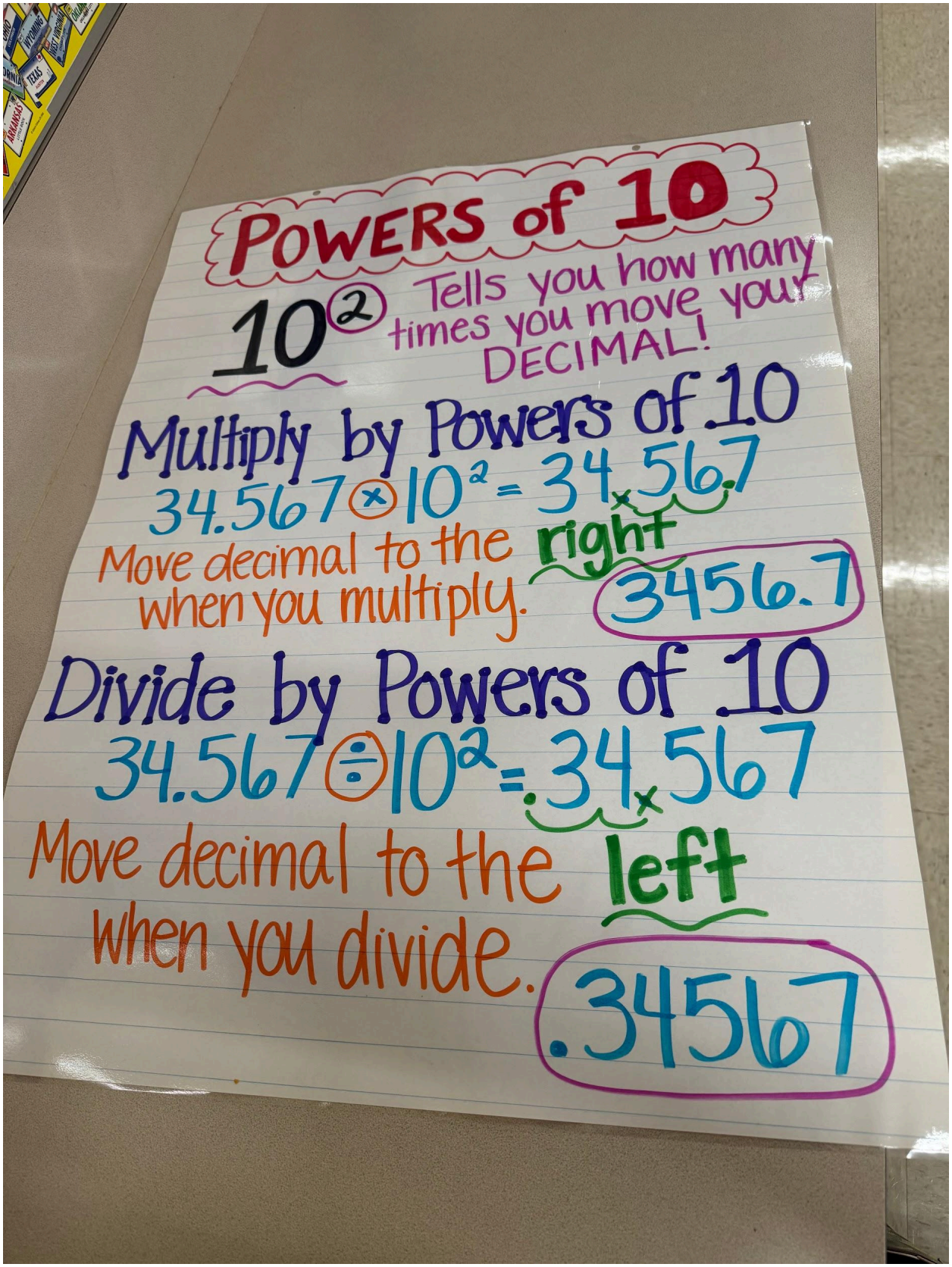

Rounding Decimals
1 underline the digit in the rounding place.
2 Look at the digit to the right.
3 #5, 6, 7, 8, 9 ↑ up the score!
#4, 3, 2, 1, 0 → Let it rest!
182.185 round to ones place Answer: 182
182.185 round to tenths place Answer: 182.2
185.396 round to hundreths place Answer: 185.4
189.963 round to hundreths place Answer: 189.96
Division Vocabulary
20 ÷ 4 = 5
Dividend
Divisor
Quotient


Forms of Decimals!
Standard Form
Expanded Form
Word Form
Standard Form
83.452
Expanded Form
80 + 3 + .4 + .05 + .002
OR
80 + 3 + 4/10 + 5/100 + 2/1000
Word Form
Eighty three and four hundred fifty two thousandths.
1 underlin rounding
2 Look
3 #5, 6, 7,
#4, 3, 2,
182.185
182.185
185.396
189.963


×10
×10
×10
THOUSANDS
1,000
HUNDREDS
100
TENS
10
ONES
1
÷10
(×1/10)
÷10
(×1/10)
÷10
(×1/10)
*When a number gets 10 times bigger, each digit moves one place value to the LEFT.
* When a number gets 10 times smaller (1/10), each digit moves one place value to the RIGHT.
Thousands
2 3
Word Form
hundred e
four hundr

Unit 5 - Multiply Whole Digit Numbers




POWERS of 10
10^{2} Tells you how many times you move your DECIMAL!
Multiply by Powers of 10
$34.567 \times 10^{2} = 34.567$
Move decimal to the right when you multiply.
3456.7
Divide by Powers of 10
$34.567 \div 10^{2} = .34567$
Move decimal to the left when you divide.
.34567

Multiplication Standard Algo.

Step 1: Multiply the top number by the ones digit.

$$\begin{array}{r} {}^{1}{}^{3}328 \\ \times\quad 14 \\ \hline 1312 \end{array}$$

Step 2: Put your place holder zero.

$$\begin{array}{r} 328 \\ \times\quad 14 \\ \hline 1312 \\ 0 \end{array}$$

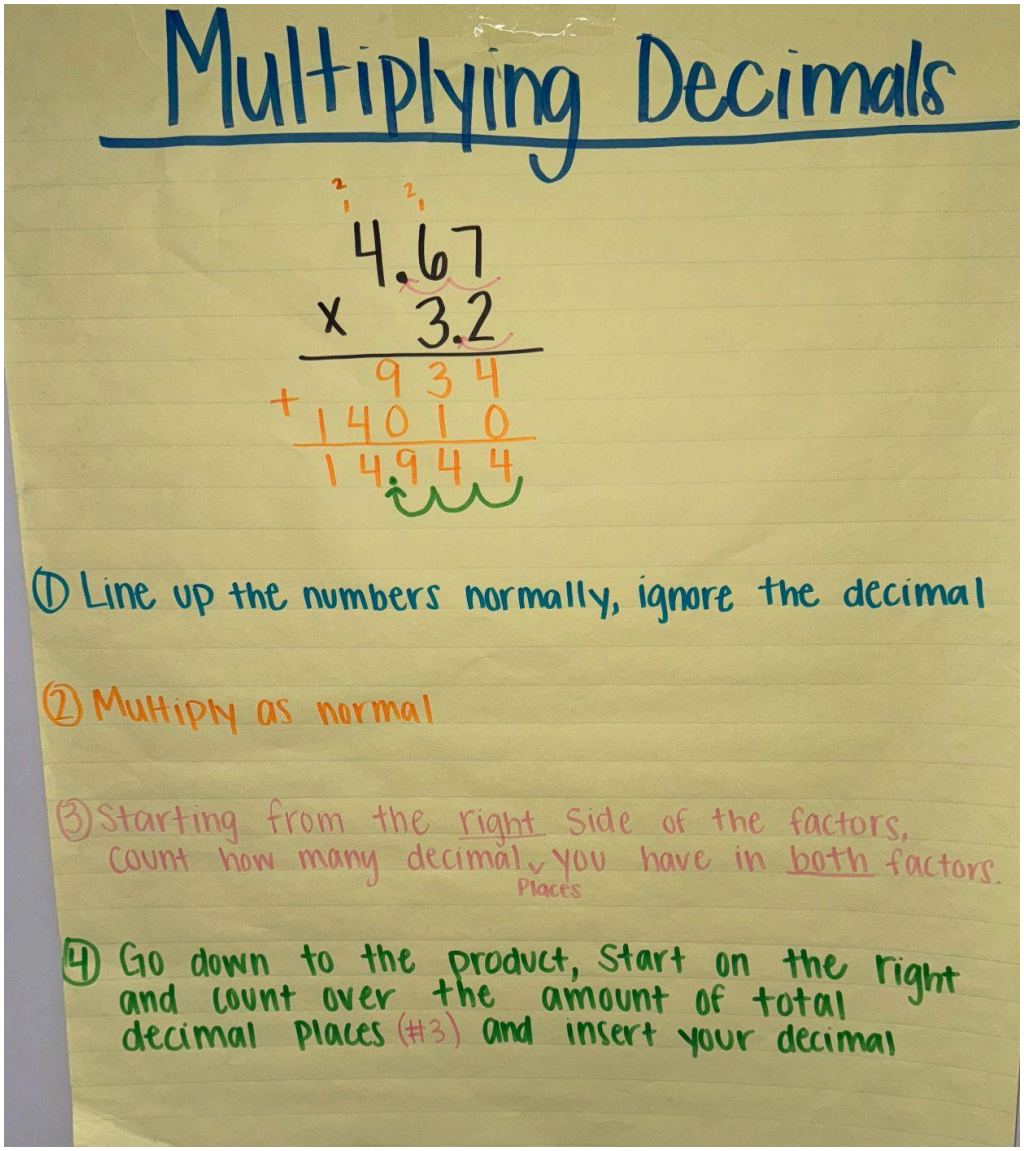
Step 3: Multiply the top number by the tens digit.

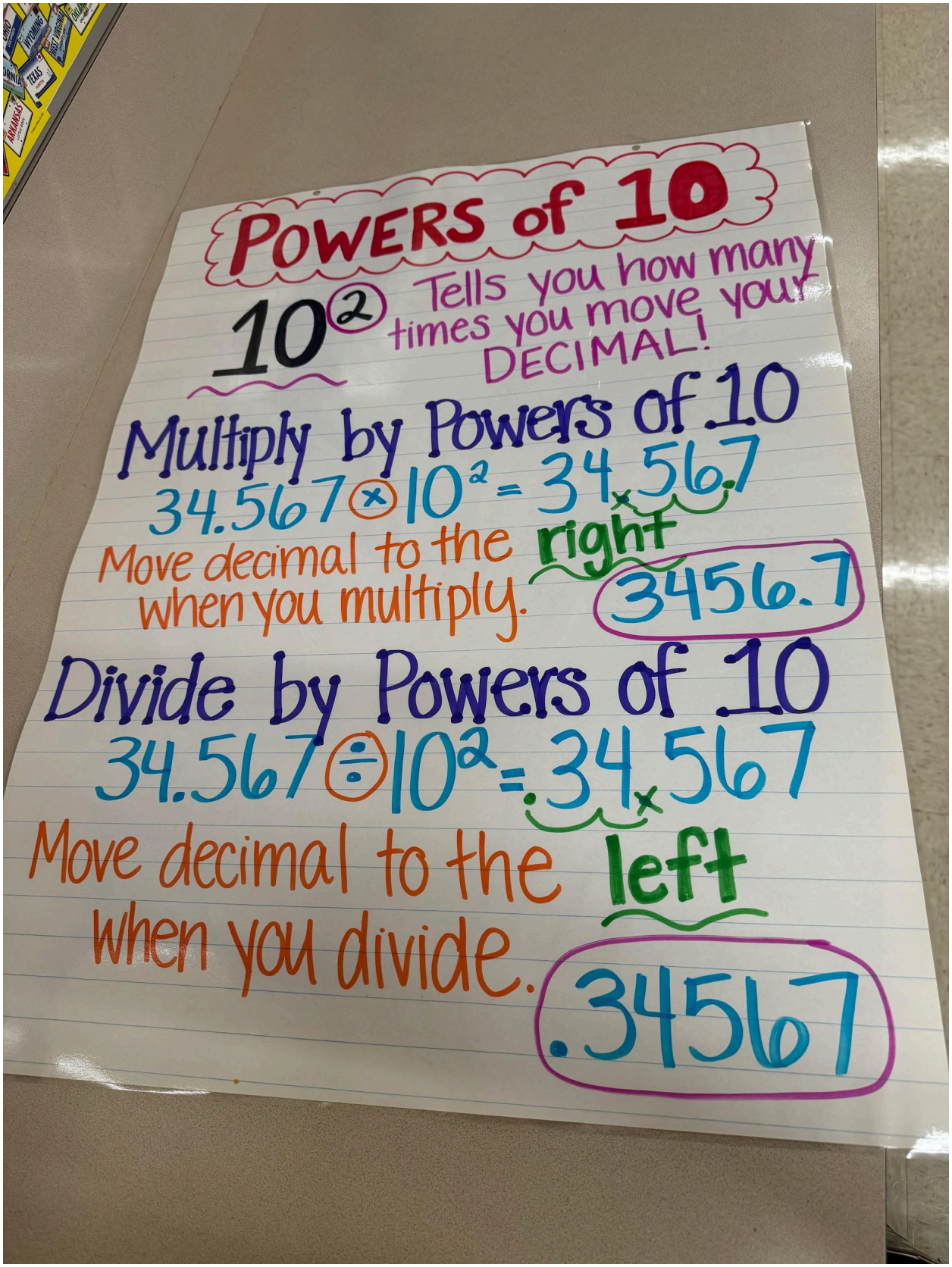
$$\begin{array}{r} 328 \\ \times\quad 14 \\ \hline 1312 \\ 3280 \end{array}$$

Step 4: Add!

$$\begin{array}{r} 328 \\ \times\quad 14 \\ \hline 1312 \\ +\,3280 \\ \hline 4,592 \end{array}$$

Unit 6 - Multiply Decimals

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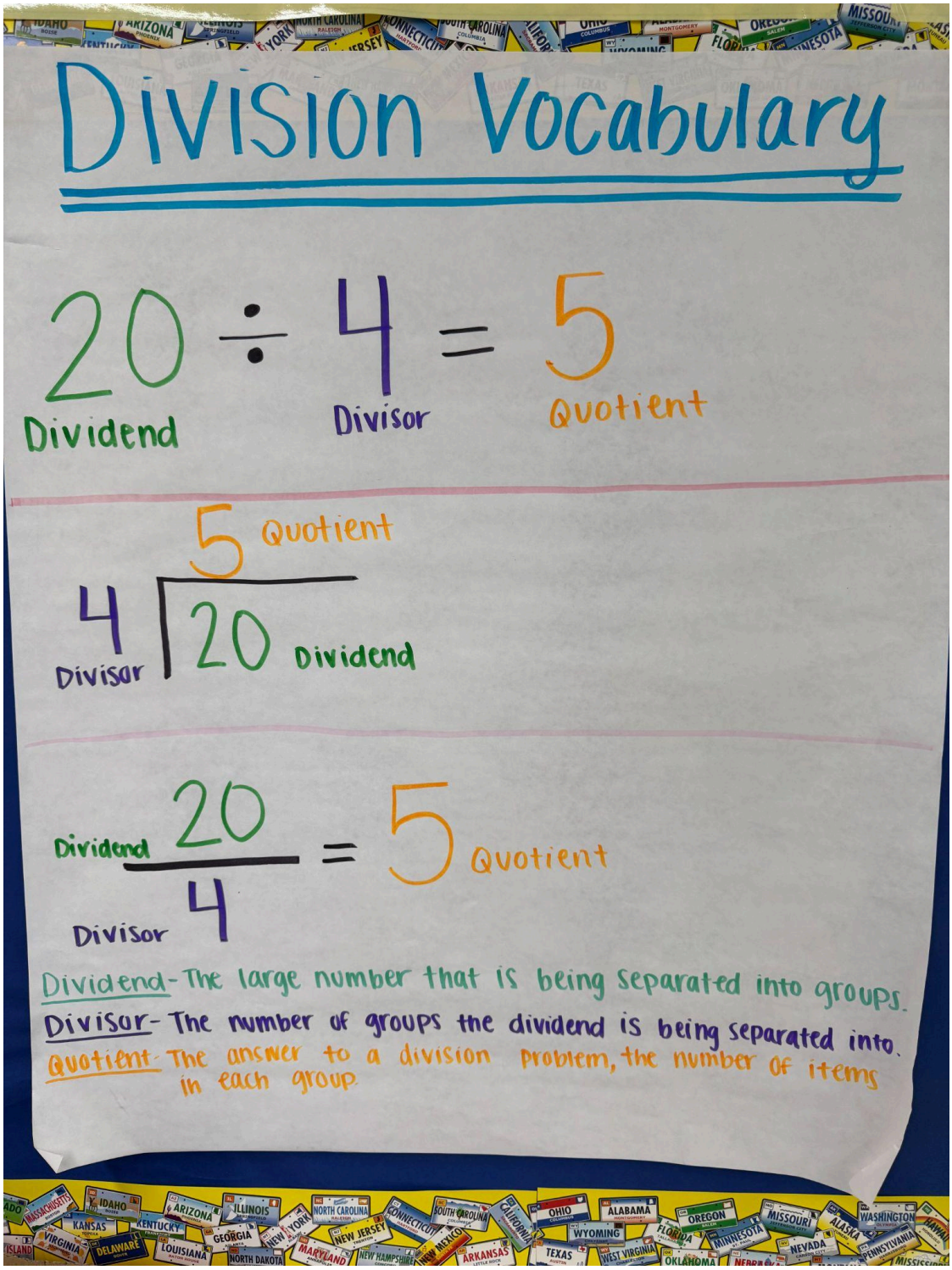
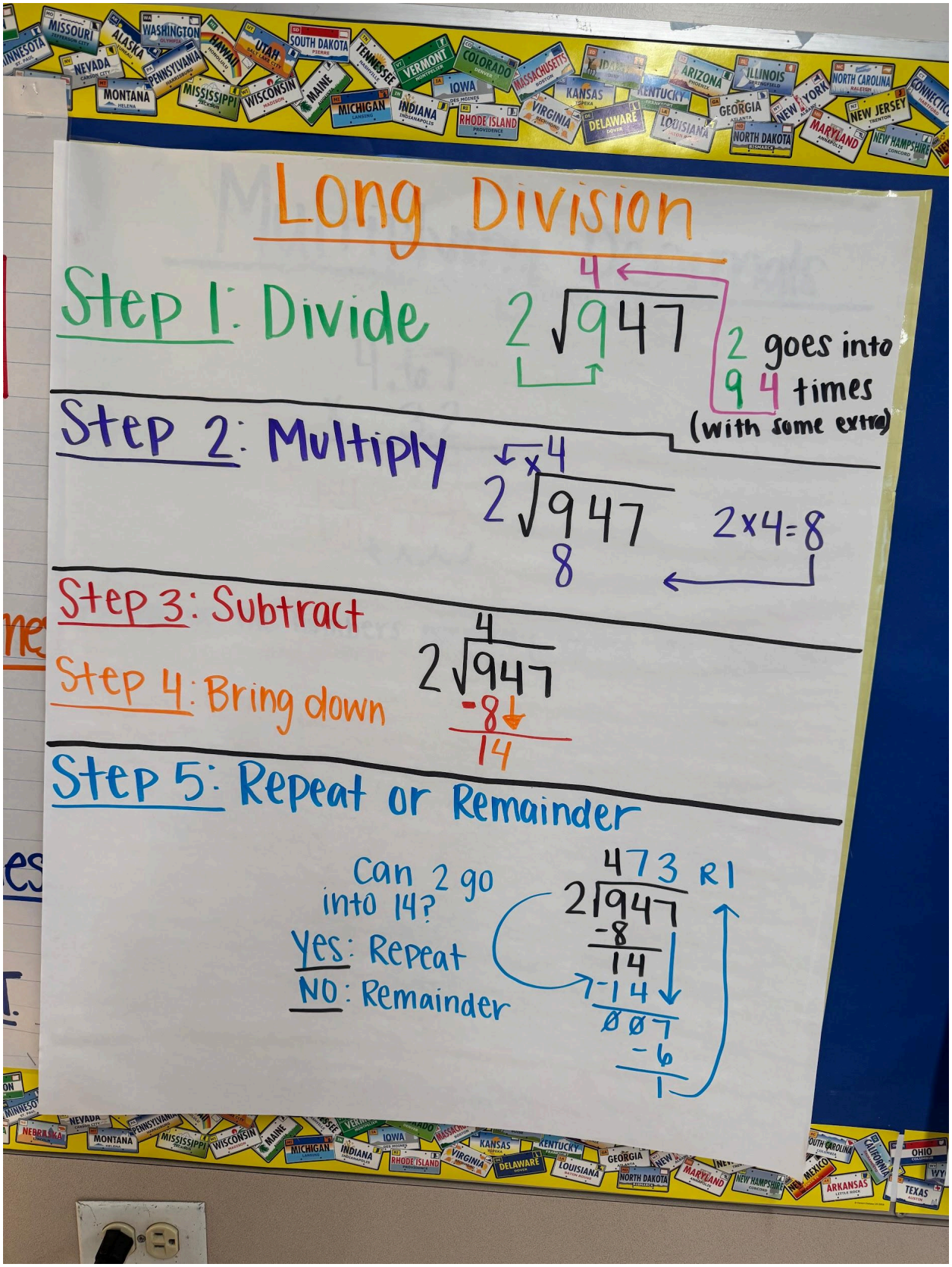
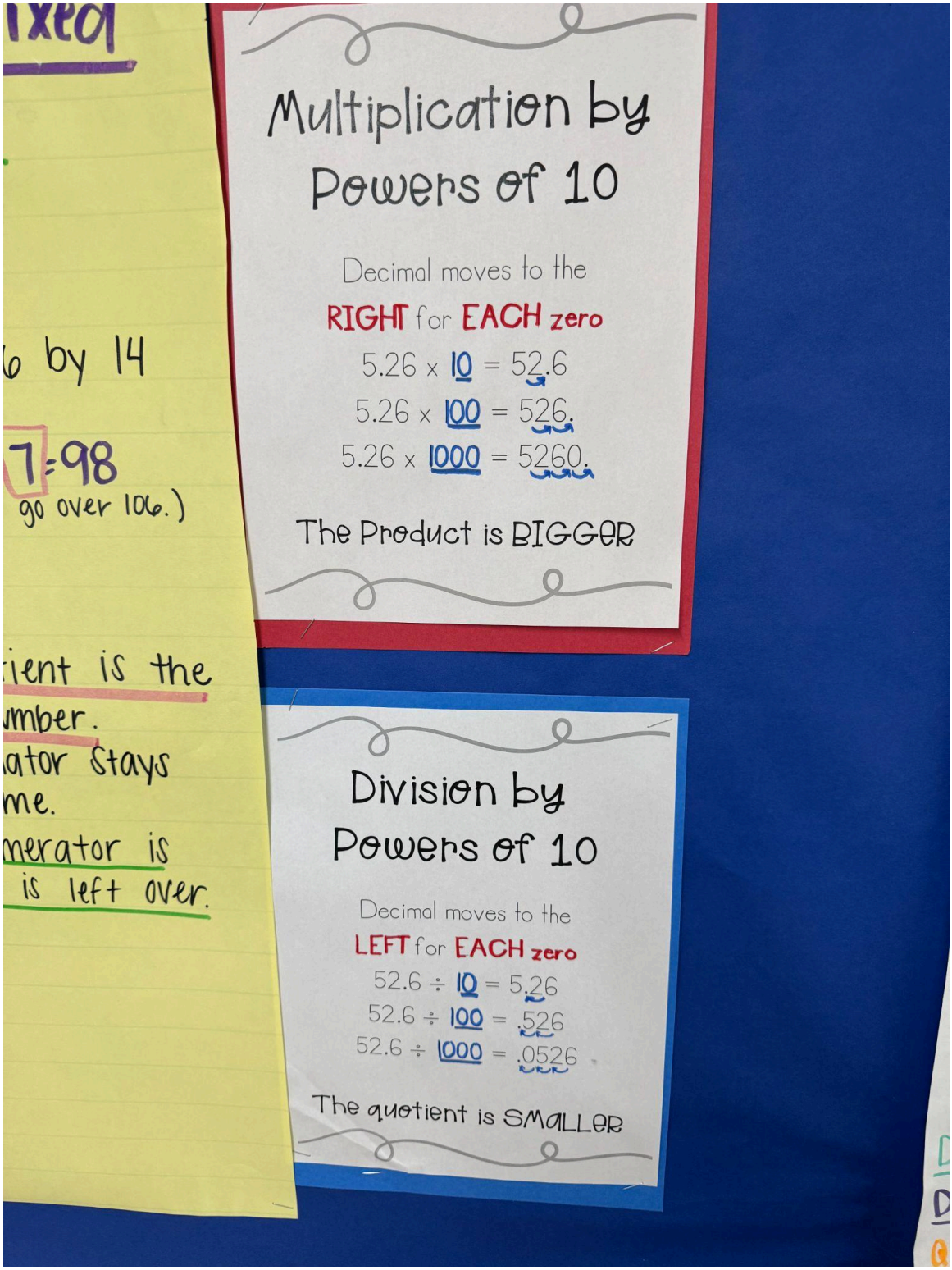
10^{2} Tells you how many times you move your DECIMAL!
Multiply by Powers of 10
$34.567 \times 10^{2} = 34.567$
Move decimal to the right when you multiply.
3456.7
Divide by Powers of 10
$34.567 \div 10^{2} = .34567$
Move decimal to the left when you divide.
.34567

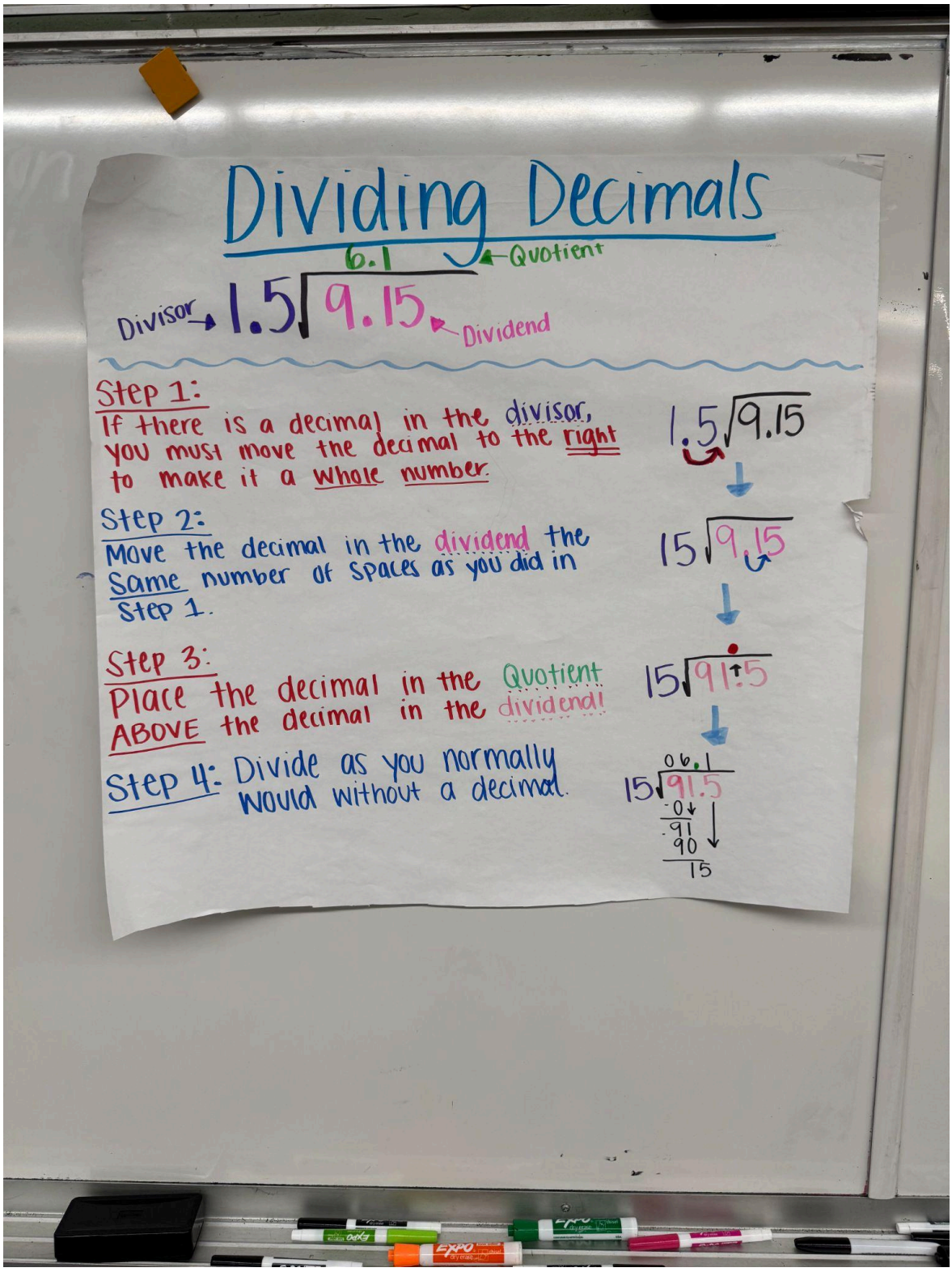
Unit 7 - Dividing Whole Numbers

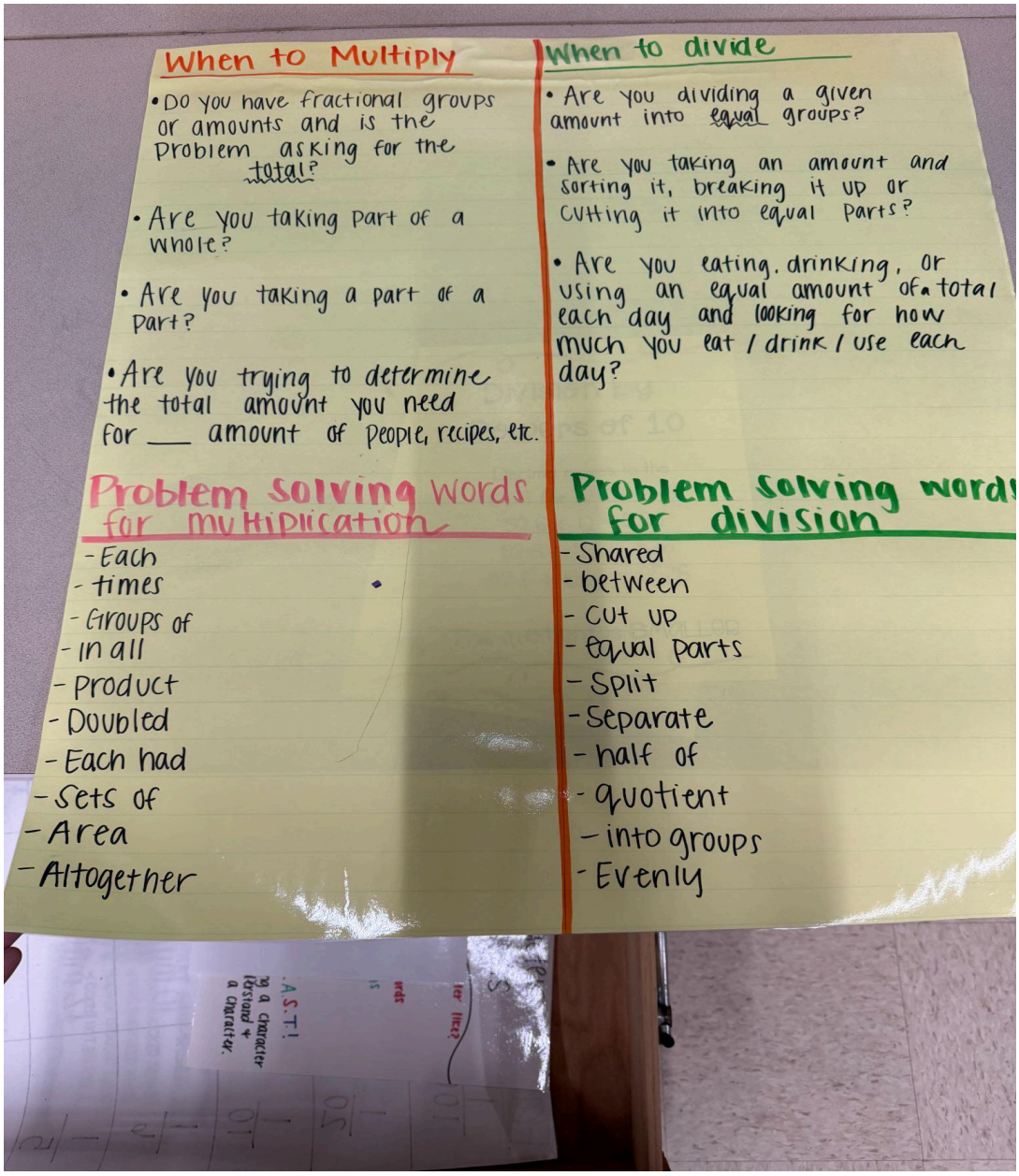



Long Division
Step 1: Divide
4
2 ⟌ 947
2 goes into 9 4 times (with some extra)
Step 2: Multiply
x4
2 ⟌ 947
8
2x4=8
Step 3: Subtract
Step 4: Bring down
4
2 ⟌ 947
-8↓
14
Step 5: Repeat or Remainder
Can 2 go into 14?
Yes: Repeat
NO: Remainder
473 R1
2 ⟌ 947
-8
14
-14
07
-6
1


Multiplication by Powers of 10
Decimal moves to the
RIGHT for EACH zero
5.26 x 10 = 52.6
5.26 x 100 = 526.
5.26 x 1000 = 5260.
The Product is BIGGER
Division by Powers of 10
Decimal moves to the
LEFT for EACH zero
52.6 ÷ 10 = 5.26
52.6 ÷ 100 = .526
52.6 ÷ 1000 = .0526
The quotient is SMALLER
by 14
go over 106.)
ient is the
mber.
ator stays
me.
merator is
is left over.

Unit 8- Dividing Decimals





When to Multiply

- Do you have fractional groups or amounts and is the problem asking for the total?
- Are you taking part of a whole?
- Are you taking a part of a part?
- Are you trying to determine the total amount you need for ___ amount of people, recipes, etc.

Problem solving words for multiplication

- Each
- times
- Groups of
- In all
- Product
- Doubled
- Each had
- Sets of
- Area
- Altogether

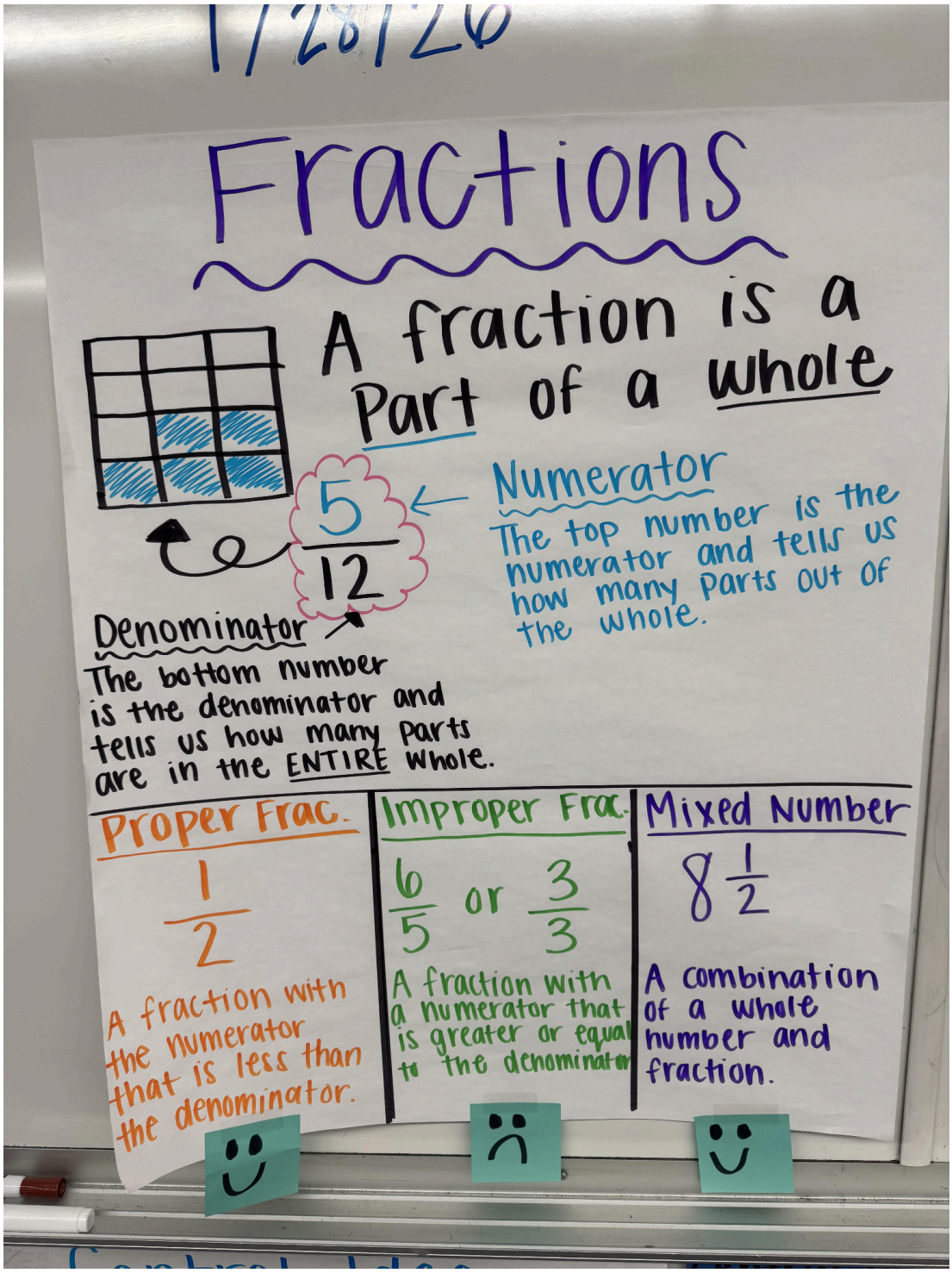
When to divide

- Are you dividing a given amount into equal groups?
- Are you taking an amount and sorting it, breaking it up or cutting it into equal parts?
- Are you eating, drinking, or using an equal amount of a total each day and looking for how much you eat / drink / use each day?

Problem solving words for division

- Shared
- between
- Cut up
- Equal parts
- Split
- Separate
- half of
- quotient
- into groups
- Evenly

Unit 9 - Adding and Subtracting Fractions



Adding Fractions

Step 1:

Do you have a common denominator?

$\frac{1}{6} + \frac{3}{4}$

uncommon denominators

Step 2:

Find the lowest common denominator using a ratio table.

1	2	3	4	5	6
6	12	18	24	30	36

3	6	9	12	15	18
4	8	12	16	20	24

Step 3: Rewrite

$\frac{1 \times 2}{6 \times 2} + \frac{3 \times 3}{4 \times 3}$

$\frac{2}{12} + \frac{9}{12}$

Step 4:

Add only numerators, denominator stays the same!

$\frac{2}{12} + \frac{9}{12} = \frac{11}{12}$

So,

$\frac{1}{6} + \frac{3}{4} = \frac{11}{12}$

Annotation List

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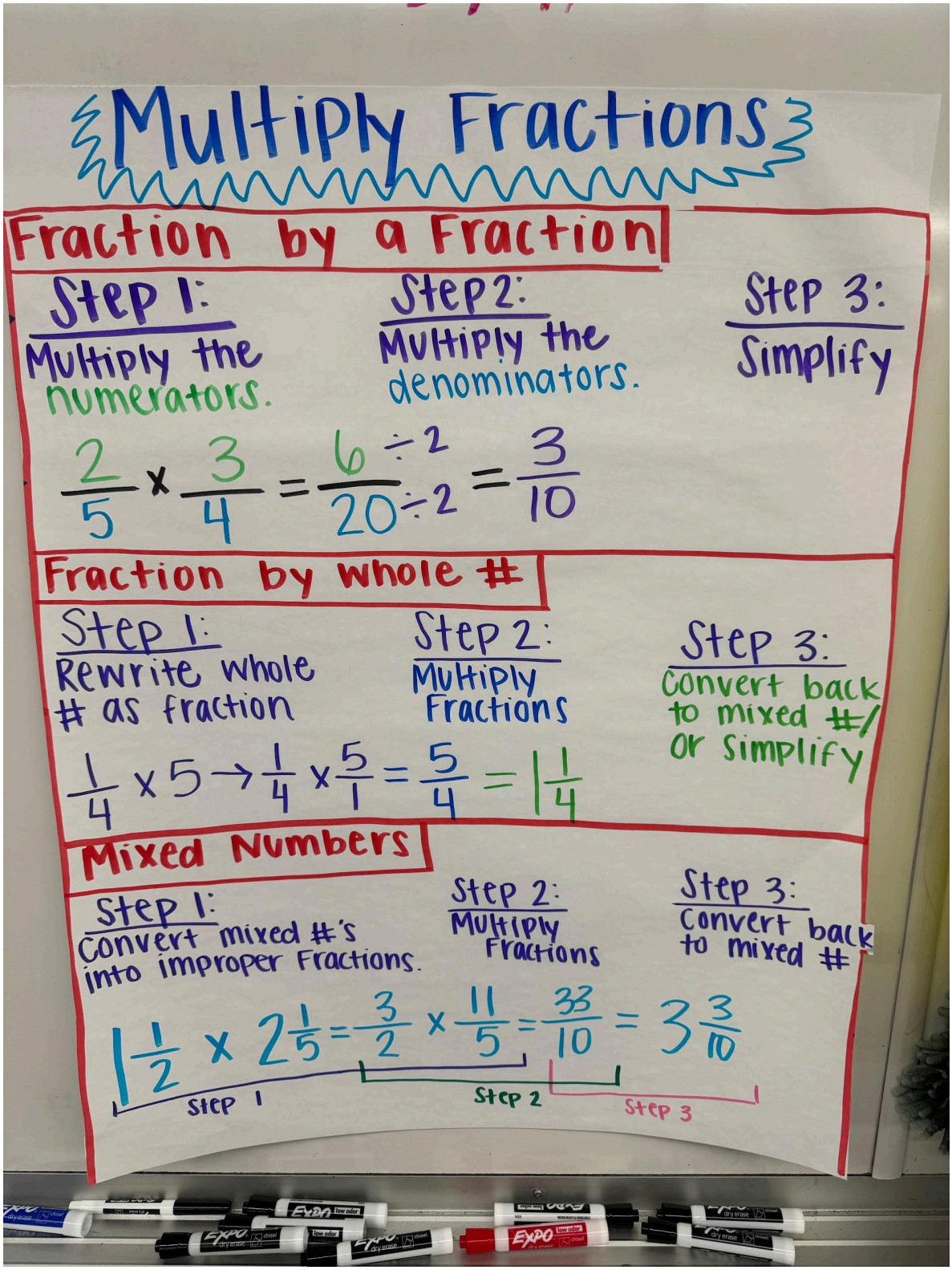
Unit 10- Multiplying Fractions



Improper Fractions & Mixed Numbers

Mixed to Improper

$7\frac{8}{14} = \frac{106}{14}$

Step 1: Multiply denominator and whole number.

$14 \times 7 = 98$

Step 2: Add that product to the numerator.

$98 + 8 = 106$

Step 3: Put the new number over the original denominator.

$\frac{106}{14}$

Improper to Mixed

$\frac{106}{14} = 7\frac{8}{14}$

Step 1: Divide 106 by 14

$14\overline{)106}$ → 7

-98

8

$14 \times 7 = 98$ (can't go over 106.)

Step 2:
* The quotient is the whole number.
* Denominator stays the same.
* The Numerator is what ever is left over.

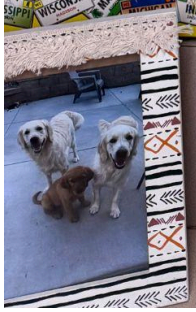
$7\frac{8}{14}$

Mixed # to IMPROPER

$3\frac{1}{2} \rightarrow \frac{7}{2}$

(3 × 2 + 1)

Keep the Denominator!



Quadrilaterals

A Polygon that has 4 sides and 4 angles.

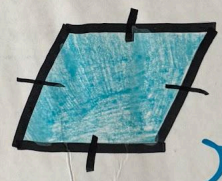
Quadrilaterals

Parallelogram
- 2 sets of parallel lines

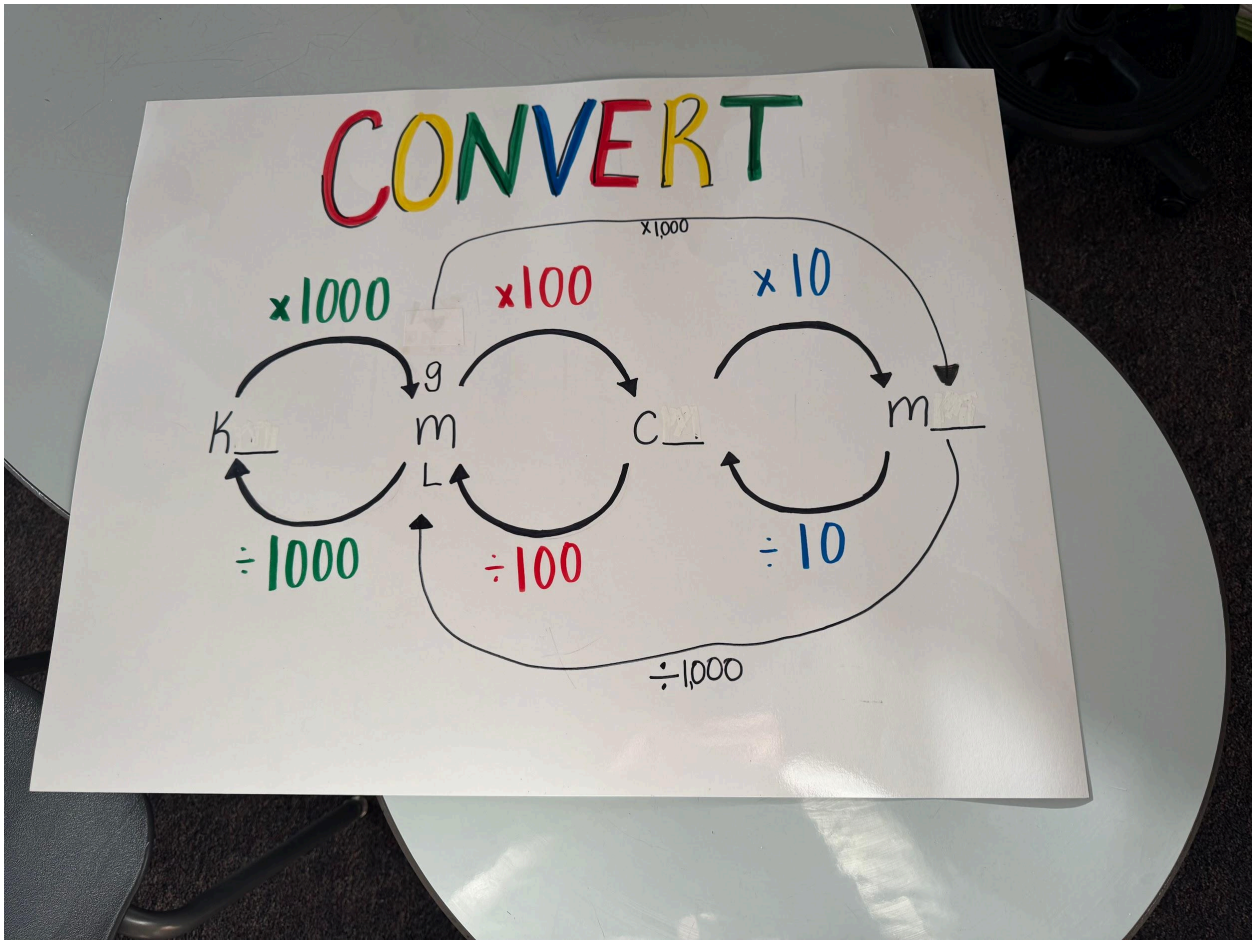
Trapezoid
- 1 set of parallel sides

Rectangle
- 4 right angles
- 2 sets of parallel lines
- 2 sets of congruent sides

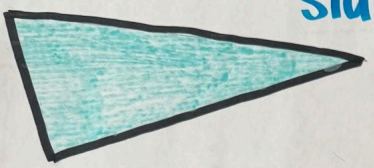
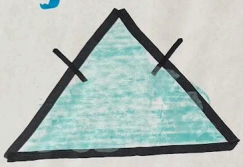
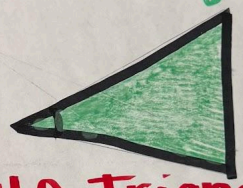
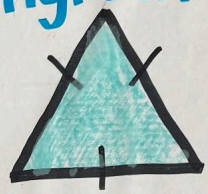
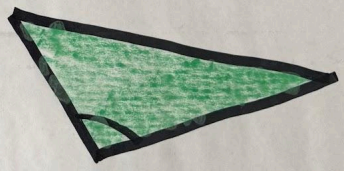
Rhombus
- 4 congruent sides
- 2 set of parallel sides



Square
- 2 sets of parallel lines
- 4 congruent sides
- 4 right angles


CONVERT
x1000
x1000
x100
x10
g
K__
m
L
C__
m__
÷1000
÷100
÷10
÷1000

Classifying Triangles

By length of Sides	By types of Angles
Zero Congruent Sides  Scalene Triangle	Right Angle  Right Triangle
2 congruent Sides  Isosceles Triangle	Acute Angle  Acute Triangle
3 congruent Sides  Equilateral Triangle	Obtuse Angle  Obtuse Triangle

Metric Conversions Steps

① Converting to a larger unit or a smaller unit?

Larger? Divide! Smaller? Multiply!

② Determine how many powers of Ten

10 ⇨ 1 place value shift
100 ⇨ 2 place value shifts
1000 ⇨ 3 place value shifts

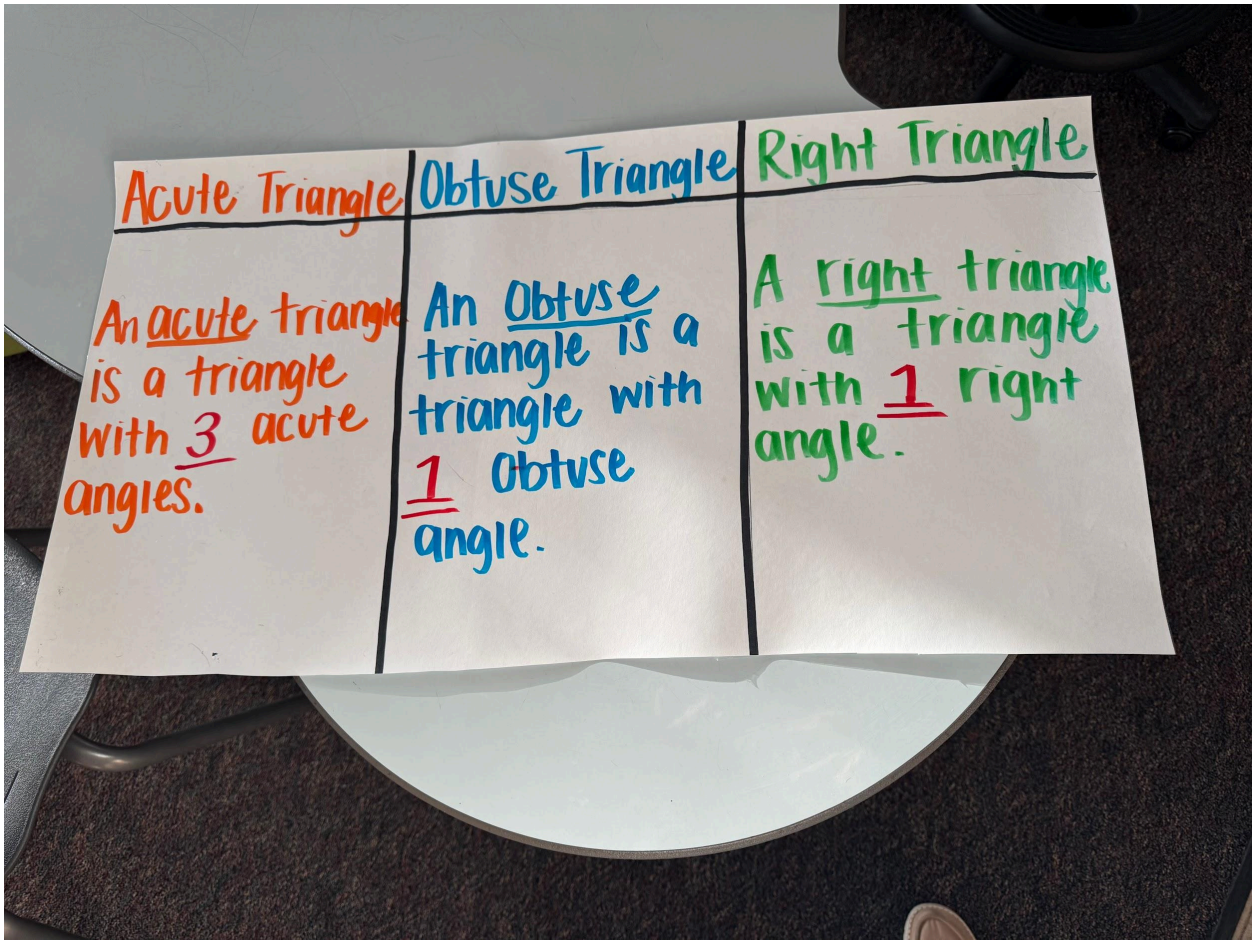
③ Shift Your Digits!

÷ Powers of ten

Decimal moves LEFT!

X Powers of ten

Decimal moves RIGHT!



Decimal Posters :