Name:_____ 2nd Quarter Quarantine - 4th Grade math

***** The pages in this packet include some 3rd grade skills that are important for upcoming 4th grade math work. It may also include some 4th grade review, along with some brand new content, depending on when your child's quarantine started. An answer key will be available on our 4th grade website, or can be sent through e-mail.**

This year we are using a new math curriculum. It involves learning through hands on activities, math games and class discussions. These are things that cannot be sent home. The pages in this packet do not fully cover what is being taught in the classroom, but will give your child some meaningful practice, in an effort to help them stay caught up with their peers. The next few pages give a better idea of what specific skills will be covered during the 2nd quarter. ***

Math classwork to complete:

- ☐ **Day 1** – Equivalent Fractions Review
- ☐ **Day 2** – Comparing Fractions Review
- ☐ **Day 3** – Understanding Fraction Multiplication
- ☐ **Day 4** – Multiplying Fractions by Whole Numbers/Missing Multiples
- ☐ **Day 5** – Adding & Subtracting Fractions
- ☐ **Day 6** – Equal Fractions – Denominators of 10 & 100
- ☐ **Day 7** – Adding 10ths & 100ths
- ☐ **Day 8** – Round Up – Basic Rounding Review
- ☐ **Day 9** – Rounding to the nearest 10 & 100
- ☐ **Day 10** – 4-digit Addition/Subtraction Practice – show regrouping
- ☐ **Grade and fix ALL pages in pen** - please don't erase answers

The answer key will be on our website or I can e-mail it to you.

Math homework to complete:

- ☐ **Week 1** – Complete 40 total minutes of math fact practice.
- ☐ **Week 2** – Complete 40 total minutes of math fact practice.
- ☐ **Record fact practice on the math calendar.**

We miss you and look forward to seeing you every day again soon! ☺

Family Support Materials

Extending Operations to Fractions

In this unit, students think about how fractions can be composed (put together) and decomposed (taken apart). They also learn about fraction operations: multiplying fractions and whole numbers, adding and subtracting fractions with the same denominator, and adding tenths and hundredths.

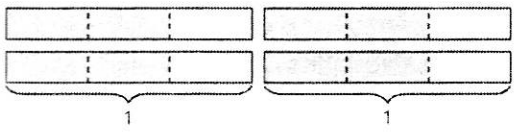
Section A: Equal Groups of Fractions

Previously, students thought about multiplication as equal groups of whole numbers of objects, such as 5 bags with 2 oranges in each bag. In this section, they think about equal groups of fractional pieces, such as 5 plates with $\frac{1}{2}$ orange on each plate. They see that the amount can be represented by $5 \times \frac{1}{2}$, which is $\frac{5}{2}$.

Students then make sense of diagrams and equations that represent the multiplication of a whole number and a fraction, such as $4 \times \frac{2}{3} = \frac{8}{3}$.

They learn that the numerator in the resulting fraction is the product of the whole number (the 4) and the numerator of the fractional factor (the 2 in $\frac{2}{3}$), and the denominator is the same as in the fractional factor (the 3 in $\frac{2}{3}$).

Diagrams can help students see that some fractions can be represented by more than one multiplication expression. For example, the diagram shows that the following expressions all have the value of $\frac{8}{3}$.



$4 \times \frac{2}{3}$

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

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

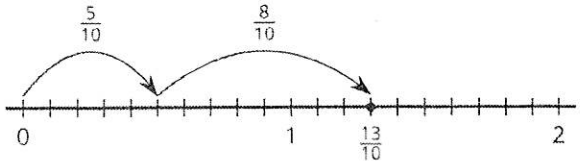
$8 \times \frac{1}{3}$

Section B: Addition and Subtraction of Fractions

In this section, students learn to add and subtract fractions by decomposing them into sums of smaller fractions, writing equivalent fractions, and using number lines.

Students first think about a fraction as a sum of other smaller fractions. They represent different ways to decompose a fraction by drawing "jumps" on number lines and writing different equations. Later, they use number lines to represent subtraction of fractions.

$$\frac{13}{10} = \frac{5}{10} + \frac{8}{10}$$



Working with number lines helps students see that a fraction greater than 1 can be decomposed into a whole number and a fraction, and then written as a mixed number. For example, to find the value of $3 - \frac{2}{5}$, it helps to first decompose the 3 into $2 + \frac{5}{5}$, and then subtract $\frac{2}{5}$ from the $\frac{5}{5}$ to get $2\frac{3}{5}$.

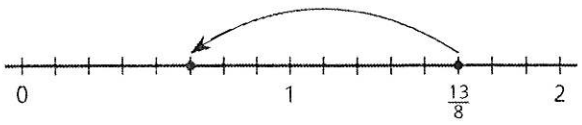
Section C: Adding Tenths and Hundredths

In this section, students learn to add tenths and hundredths. Previously, students learned that $\frac{1}{10} = \frac{10}{100}$. They use this reasoning to find equivalent fractions that can help them add tenths and hundredths.

Try it at home!

Near the end of the unit, ask your student to solve the following problems:

What equation is represented by the jump on the number line?



Find the value of $\frac{8}{10} + \frac{29}{100}$.

Questions that may be helpful as they work:

- How did you know those fractions were needed for the equation?
- How did you find your answer?
- How could you solve your problem in a different way?

Family Support Materials

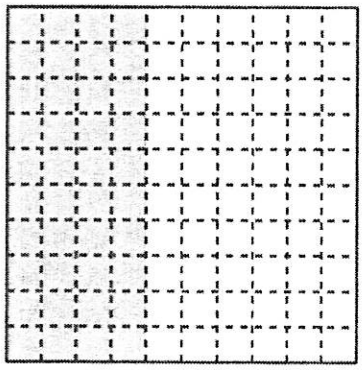
From Hundredths to Hundred-thousands

In this unit, students learn to express small and large numbers, from hundredths to hundred-thousands. They learn to write tenths and hundredths using decimal notation and to work with whole numbers within 1 million.

Section A: Decimals with Tenths and Hundredths

In this section, students relate the fraction $\frac{1}{10}$ to the notation 0.1 and $\frac{1}{100}$ to 0.01. They learn to read 0.1 as "one tenth" and 0.01 as "one hundredth."

To connect the fraction notation, decimal notation, and word name of a fraction, students reason with square diagrams that each represent 1 and are partitioned into hundredths.



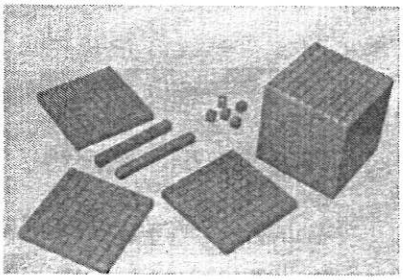
The gridded square helps students see that $\frac{1}{10}$ (or 0.1) and $\frac{10}{100}$ (or 0.10) represent the same amount. It also allows students to recognize other tenths and hundredths that are equivalent.

For instance, the shaded parts of this diagram represent both 40 hundredths ($\frac{40}{100}$) and 4 tenths ($\frac{4}{10}$), so $0.4 = 0.40$.

Later in the section, students locate decimals on number lines. They compare decimals based on size and write comparison statements using the symbols <, >, and =.

Section B: Place-value Relationships through 1,000,000

In this section, students make sense of whole numbers up to the hundred-thousands place. They use base-ten blocks and diagrams to represent large numbers.



Students come to understand the value of the digit in each position in a multi-digit number. They see that a digit in one place has a value that is ten times the value of the same digit in a place to its right.

For example, the 3 in 347,000 has a value ten times that of the 3 in 34,700, because $300{,}000 = 10 \times 30{,}000$.

Section C: Compare, Order, and Round

In this section, they compare and round numbers within 1,000,000. To compare numbers, students think about the value of the digits and locate the numbers on a number line.

To round a number, they think about multiples of 10, 100, 1,000, 10,000, and 100,000 that are the closest to the number. For example, 215,300 rounded to the nearest hundred-thousand is 200,000.& Students then solve problems involving large numbers in various situations.

Section D: Add and Subtract

In this section, students learn to use the standard algorithm for addition and subtraction. As in earlier grades, they think about composing (putting together) or decomposing (or breaking apart) base-ten units to add and subtract.

To find the value of $17{,}375 + 14{,}024$, for example, students may first write each number in expanded form and then add the values in each place (ten-thousands, thousands, hundreds, tens, ones). Later, they connect this way of adding to the standard algorithm for addition.

$$\begin{array}{rrrrrrrrrrr} & 10{,}000 & + & 7{,}000 & + & 300 & + & 70 & + & 5 & \\ + & 10{,}000 & + & 4{,}000 & + & 0 & + & 20 & + & 4 & \\ \hline & 20{,}000 & + & 11{,}000 & + & 300 & + & 90 & + & 9 & = 31{,}399 \end{array}$$

$$\begin{array}{r} {\scriptstyle 1} \\ 17{,}375 \\ +\;14{,}024 \\ \hline 31{,}399 \end{array}$$

Try it at home!

Near the end of the unit, ask your student about the numbers 769,038 and 170,932:

- What is the value of the 7 in each number? Write a multiplication or division equation to show the relationship between these two values.
- Round each number to the nearest multiple of 1,000 and multiple of 100,000.
- Find the sum and difference of the two numbers.

Questions that may be helpful as they work:

- How did you find your answer?
- How could you solve your problem in a different way?

Using Multiplication to find Equivalent Fractions

To find equivalent fractions, you can multiply a fraction by a fraction that is equivalent to 1. Multiply the numerators and the denominators to find an equivalent fraction.

$\frac{1}{2} \times \frac{2}{2} = \frac{2}{4}$ $\frac{1}{2} \times \frac{3}{3} = \frac{\quad}{\quad}$ $\frac{1}{2} \times \frac{4}{4} = \frac{\quad}{\quad}$

$\frac{2}{3} \times \frac{2}{2} = \frac{\quad}{\quad}$ $\frac{2}{3} \times \frac{4}{4} = \frac{\quad}{\quad}$ $\frac{2}{3} \times \frac{5}{5} = \frac{\quad}{\quad}$

$\frac{1}{4} \times \frac{2}{2} = \frac{\quad}{\quad}$ $\frac{1}{4} \times \frac{\quad}{\quad} = \frac{\quad}{\quad}$ $\frac{1}{4} \times \frac{\quad}{\quad} = \frac{\quad}{\quad}$

$\frac{3}{4} \times \frac{2}{2} = \frac{\quad}{\quad}$ $\frac{3}{4} \times \frac{\quad}{\quad} = \frac{\quad}{\quad}$ $\frac{3}{4} \times \frac{\quad}{\quad} = \frac{\quad}{\quad}$

4.NF.1

Using Division to find Equivalent Fractions

To find equivalent fractions, you can divide a fraction by a fraction that is equivalent to 1. Divide the numerators and the denominators to find an equivalent fraction.

$\frac{6}{12} \div \frac{2}{2} = \frac{3}{6}$

$\frac{6}{12} \div \frac{3}{3} = \frac{\quad}{\quad}$

$\frac{6}{12} \div \frac{6}{6} = \frac{\quad}{\quad}$

$\frac{6}{10} \div \frac{2}{2} = \frac{\quad}{\quad}$

$\frac{4}{12} \div \frac{4}{4} = \frac{\quad}{\quad}$

$\frac{5}{10} \div \frac{5}{5} = \frac{\quad}{\quad}$

$\frac{2}{8} \div \frac{2}{2} = \frac{\quad}{\quad}$

$\frac{8}{12} \div \frac{2}{2} = \frac{\quad}{\quad}$

$\frac{3}{6} \div \frac{3}{3} = \frac{\quad}{\quad}$

$\frac{3}{12} \div \frac{3}{3} = \frac{\quad}{\quad}$

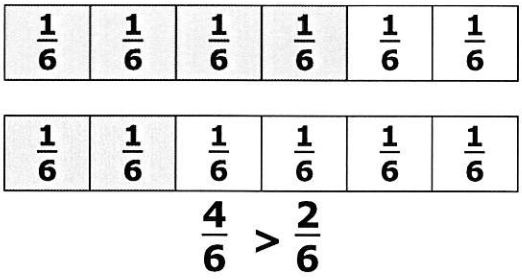
$\frac{4}{8} \div \frac{4}{4} = \frac{\quad}{\quad}$

$\frac{4}{10} \div \frac{2}{2} = \frac{\quad}{\quad}$

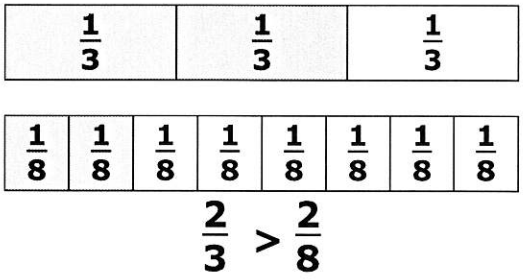
4.NF.1

Strategies for Comparing Fractions

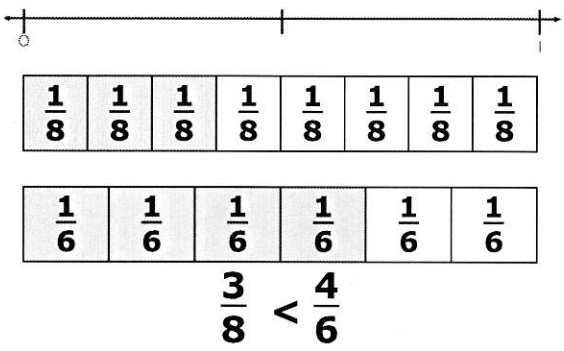
1. Same <u>denominator</u>?
   - → same <u>size</u> parts, so you want more parts



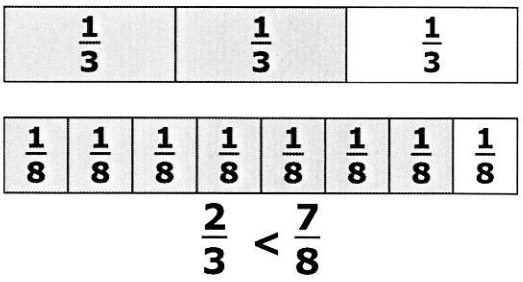
2. Same <u>numerator</u>?
   - → same <u>number of</u> parts, so you want the bigger parts



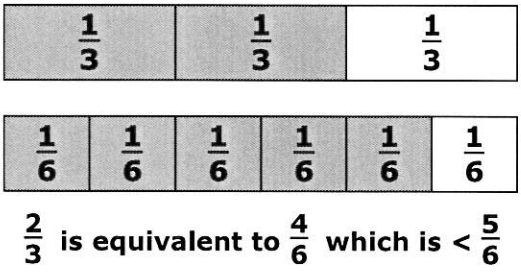
3. Compare to one-half
   - → is the numerator more than, less than, or equal to half the denominator?



4. Are they one unit fraction from a whole?
   - → the smaller unit fraction is closer to a whole



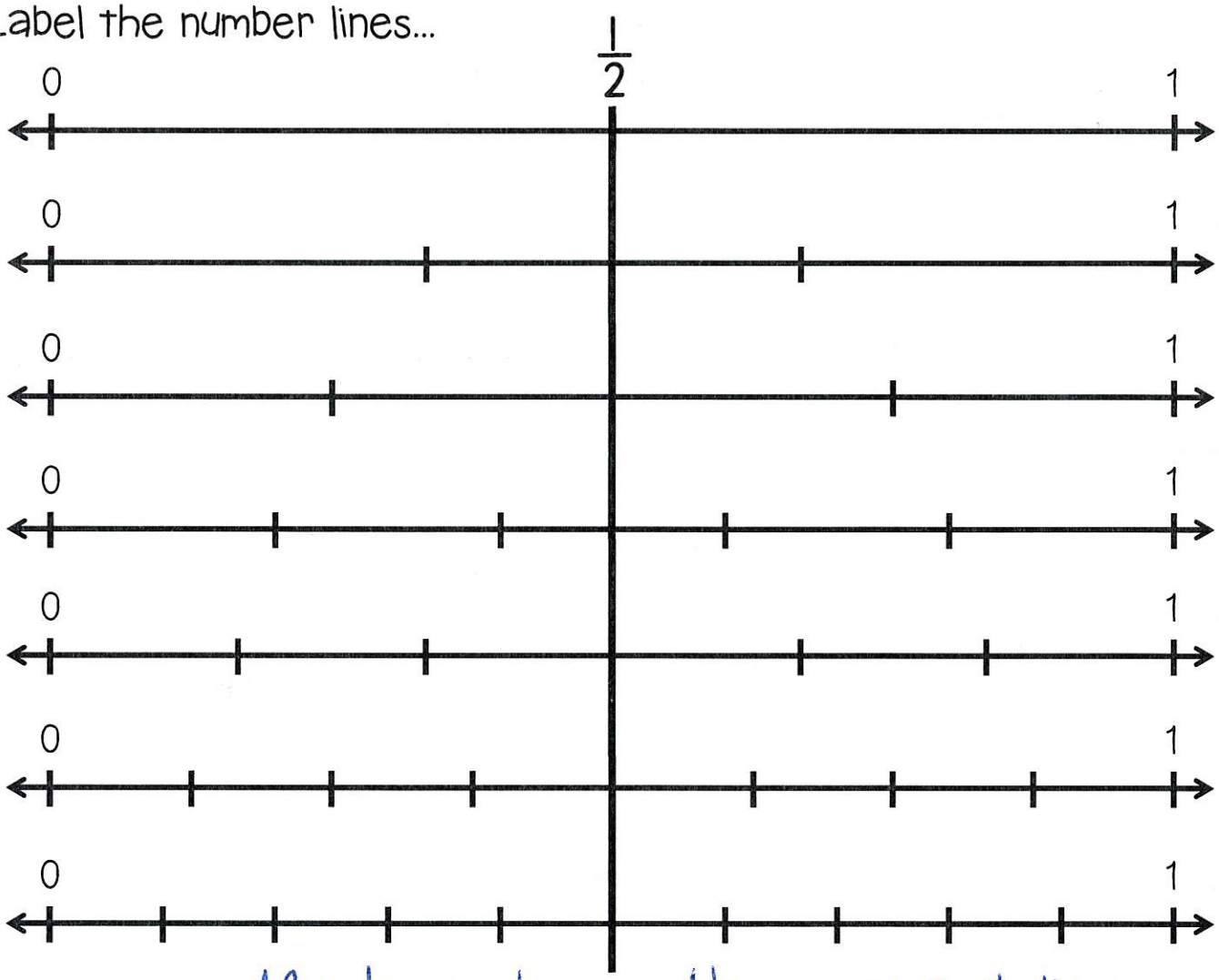
5. Create an equivalent fraction so they have a common numerator or denominator



Name: _____ Date: _____ Score: ____

Comparing fractions to One-Half

Label the number lines...



Mark each on the correct # line.

Tell whether each fraction is greater than, less than, or equal to ½.

$\frac{2}{3}$ _____ $\frac{3}{5}$ _____ $\frac{3}{8}$ _____

$\frac{2}{4}$ _____ $\frac{2}{6}$ _____ $\frac{6}{10}$ _____

4.NF.2

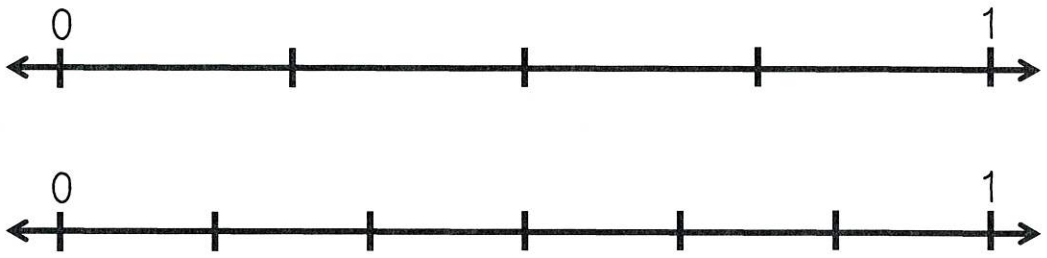
Name: _____ Date: _____ Score: ____

Comparing with Number Lines #1

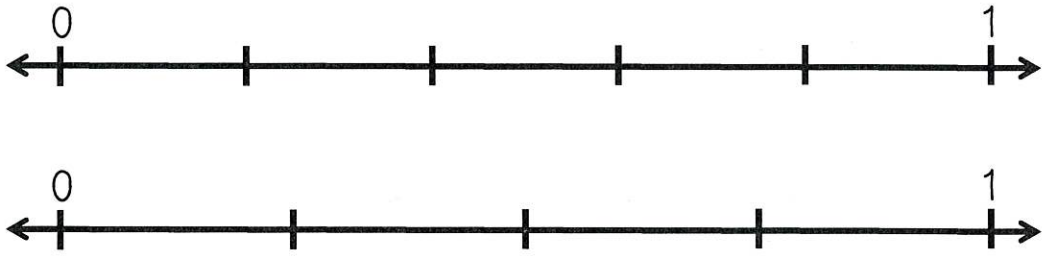
{Use the number lines to represent each fraction. Then compare.}

Show each on the number line then compare.

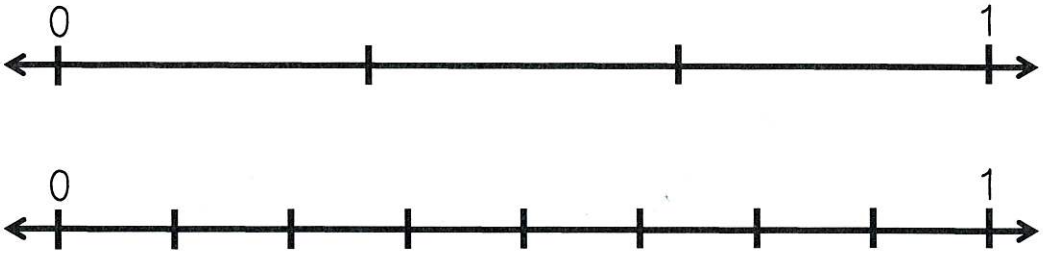
$\frac{2}{4} \bigcirc \frac{3}{6}$



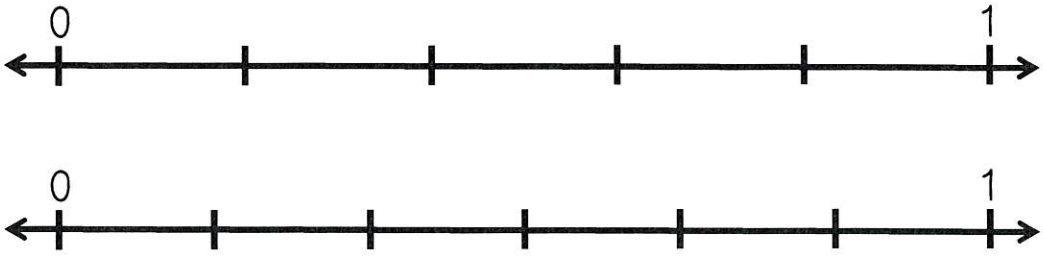
$\frac{3}{5} \bigcirc \frac{3}{4}$



$\frac{2}{3} \bigcirc \frac{3}{8}$



$\frac{2}{5} \bigcirc \frac{4}{6}$

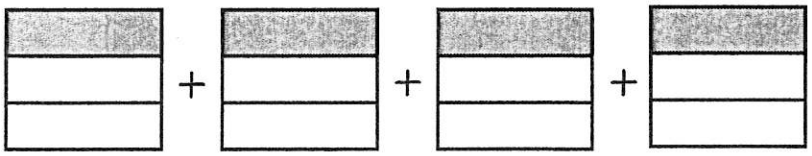


4.NF.2

Name: _____ Date: _____ Score: _____

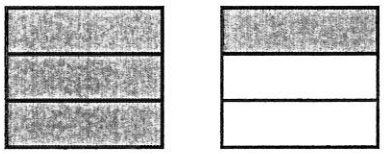
Understanding Fraction Multiplication #1

When multiplying a fraction by a whole number, you are adding equal parts of a whole a given number of times. For instance, when multiplying $\frac{1}{3}$ by 4, you are adding $\frac{1}{3}$ four times...



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

This is the same as...

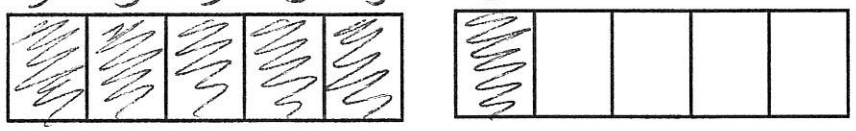


$$4 \times \frac{1}{3} = \frac{4}{3}$$

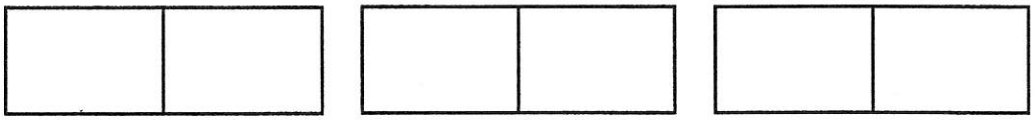
Use the models to find the product of each.

$6 \times \frac{1}{5} = \frac{6}{5}$ (6 groups of)

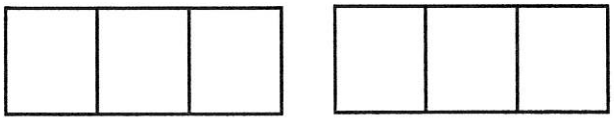
$\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$ → more than a whole



$5 \times \frac{1}{2} =$ ___



$5 \times \frac{1}{3} =$ ___



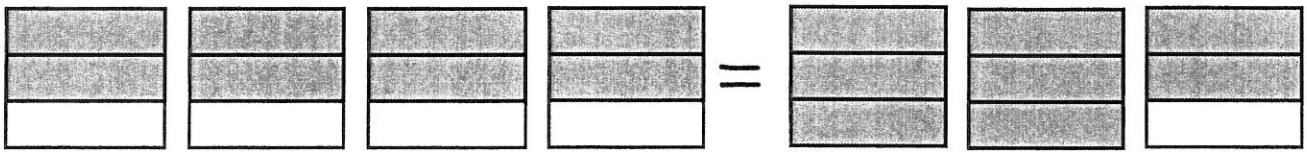
4.NF.4

Name: _____ Date: _____ Score: ____

Understanding Fraction Multiplication #2

A fraction such as $\frac{2}{3}$ can be interpreted as $2 \times \frac{1}{3}$.

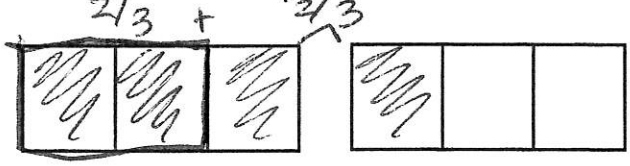
So, $4 \times \frac{2}{3}$ is the same as $8 \times \frac{1}{3}$...



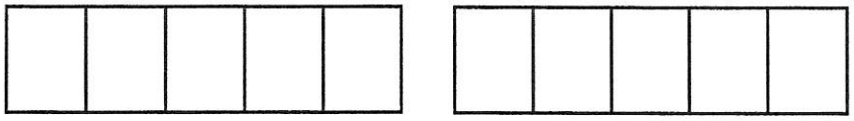
$$4 \times \frac{2}{3} = \frac{8}{3}$$

Use the models to find the product of each.

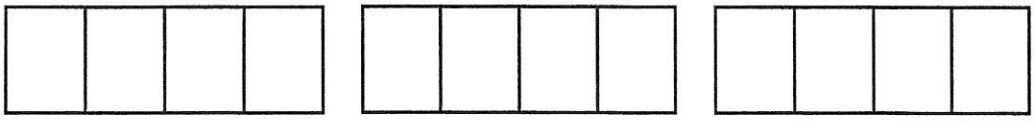
$2 \times \frac{2}{3} = \frac{4}{3}$ 2 groups of $\frac{2}{3}$



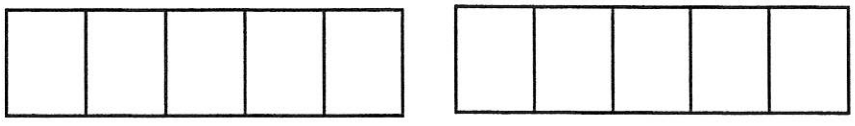
$4 \times \frac{2}{5} =$ ___



$3 \times \frac{3}{4} =$ ___



$2 \times \frac{3}{5} =$ ___

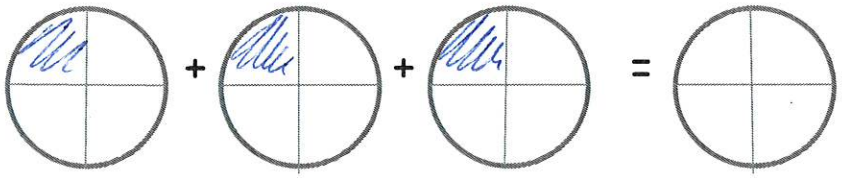


Multiplying Fractions & Whole Numbers:

(1) ONE WAY - Repeated addition:

$3 \times \frac{1}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = $ ___

color



(2) ANOTHER (FASTER) WAY:

$2 \times \frac{1}{6} =$ _____ $4 \times \frac{1}{10} =$ _____ $5 \times \frac{1}{3} =$ _____

Regular Multiples:

Multiples of 2: 2 4 6 8 10 12 14 16 18

Multiples of 5: 5 10 15 20 25 30 35 40

(3) Multiples of a Unit Fraction:

Multiples of 1/8: Repeated Addition:

$\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} = \frac{5}{8}$

$\frac{1}{8}$ $\frac{2}{8}$ $\frac{3}{8}$ $\frac{4}{8}$ $\frac{5}{8}$

Equation 5 (groups of) x $\frac{1}{8}$ = $\frac{5}{8}$

Multiples of 1/3: Repeated Addition:

$\frac{1}{3}$ $\frac{2}{3}$ $\frac{3}{3}$ $\frac{4}{3}$ $\frac{5}{3}$

Equation _____ x _____ = _____

Missing Multiples:

1) ___ $\frac{4}{3}$ $\frac{6}{3}$ $\frac{8}{3}$ ___

2) ___ $\frac{6}{8}$ ___ $\frac{12}{8}$ $\frac{15}{8}$

3) ___ $\frac{8}{5}$ $\frac{12}{5}$ $\frac{16}{5}$ ___

4) ___ ___ $\frac{15}{6}$ $\frac{20}{6}$ $\frac{25}{6}$

Fraction Multiplication	Equivalent Unit Fraction Multiplication Equation (→ 1 on top)
$\frac{2}{3}+\frac{2}{3}$ $2 \times \frac{2}{3} = \frac{4}{3}$ ↔ (equivalent)	$4 \times \frac{1}{3} = \frac{4}{3}$ (4 groups of)
$3 \times \frac{4}{6} =$	
$5 \times \frac{3}{8} =$	
$4 \times \frac{6}{12} =$	

Name: _____ Date: _____ Score: ____

Adding fractions

{Find the sum of each. Find simplest form if needed.}

$\frac{1}{3} + \frac{1}{3} =$ ____ $\frac{2}{6} + \frac{3}{6} =$ ____ $\frac{6}{10} + \frac{1}{10} =$ ____

$\frac{1}{4} + \frac{2}{4} =$ ____ $\frac{2}{5} + \frac{2}{5} =$ ____ $\frac{3}{4} + \frac{1}{4} =$ ____

$\frac{3}{8} + \frac{2}{8} =$ ____ $\frac{1}{2} + \frac{1}{2} =$ ____ $\frac{5}{8} + \frac{1}{8} =$ ____

$\frac{2}{6} + \frac{1}{6} =$ ____ $\frac{4}{10} + \frac{3}{10} =$ ____ $\frac{5}{12} + \frac{2}{12} =$ ____

4.NF.3

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Subtracting Fractions

{Find the difference of each. Find simplest form if needed.}

$\frac{2}{3} - \frac{1}{3} =$ ____ $\frac{5}{6} - \frac{3}{6} =$ ____ $\frac{6}{10} - \frac{4}{10} =$ ____

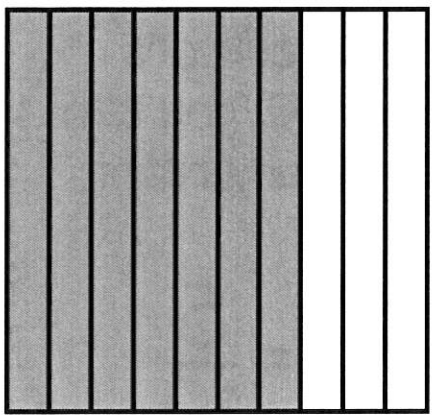
$\frac{4}{4} - \frac{2}{4} =$ ____ $\frac{2}{5} - \frac{2}{5} =$ ____ $\frac{8}{12} - \frac{5}{12} =$ ____

$\frac{6}{8} - \frac{2}{8} =$ ____ $\frac{3}{5} - \frac{1}{5} =$ ____ $\frac{5}{8} - \frac{1}{8} =$ ____

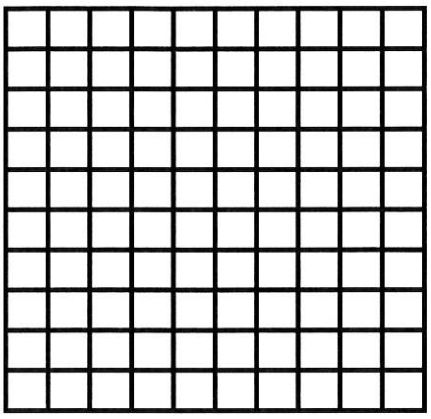
$\frac{2}{6} - \frac{1}{6} =$ ____ $\frac{4}{10} - \frac{3}{10} =$ ____ $\frac{5}{12} - \frac{2}{12} =$ ____

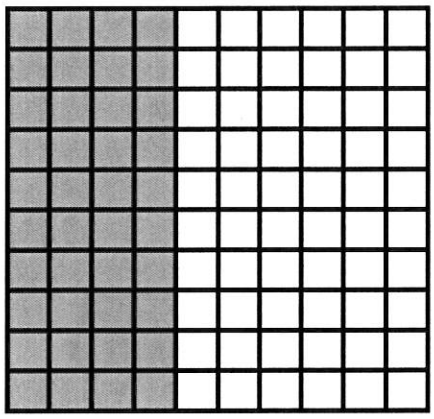
4.NF.3

Equivalent fractions: Denominators of 10 & 100

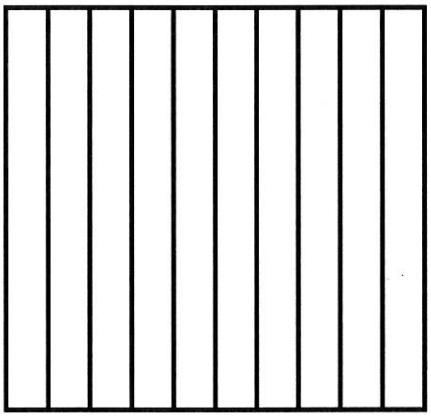


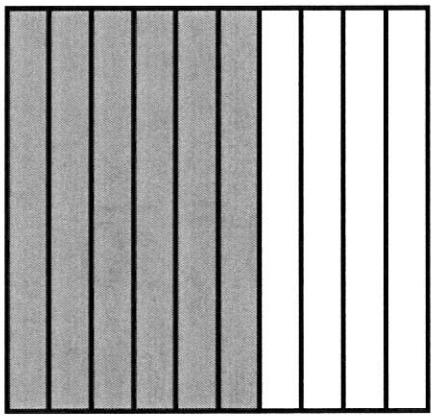
$\frac{7}{10} = \frac{\quad}{100}$



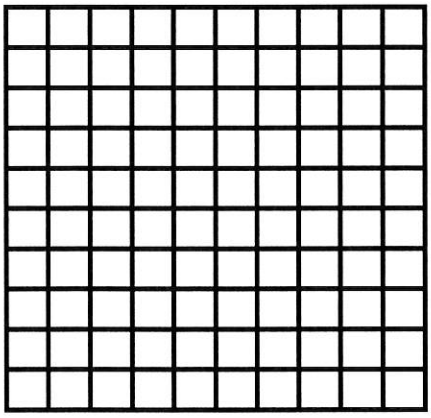


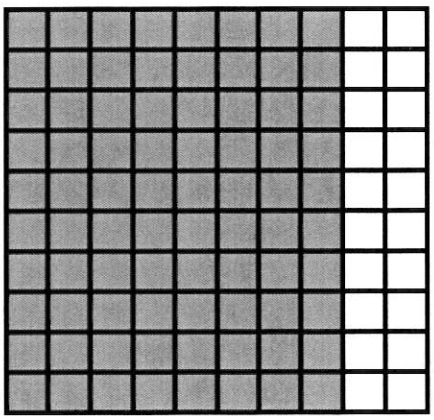
$\frac{40}{100} = \frac{\quad}{10}$



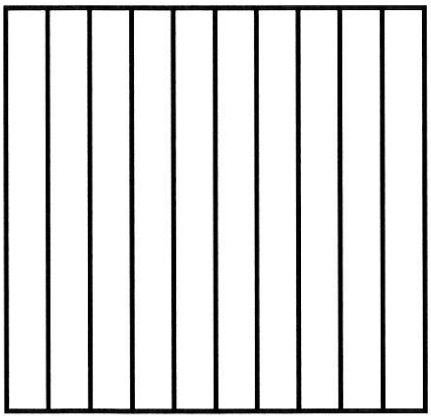


$\frac{6}{10} = \frac{\quad}{100}$





$\frac{80}{100} = \frac{\quad}{10}$



4.NF.5

Equivalent fractions: Denominators of 10 & 100

To find equivalent fractions when the numerators and/or denominators are multiples of 10 or 100, you can multiply or divide by a fraction that has a numerator and denominator of 10.

$$\frac{2}{10} \times \frac{10}{10} = \frac{20}{100} \qquad \frac{50}{100} \div \frac{10}{10} = \frac{5}{10}$$

{Find an equivalent fraction for each.}

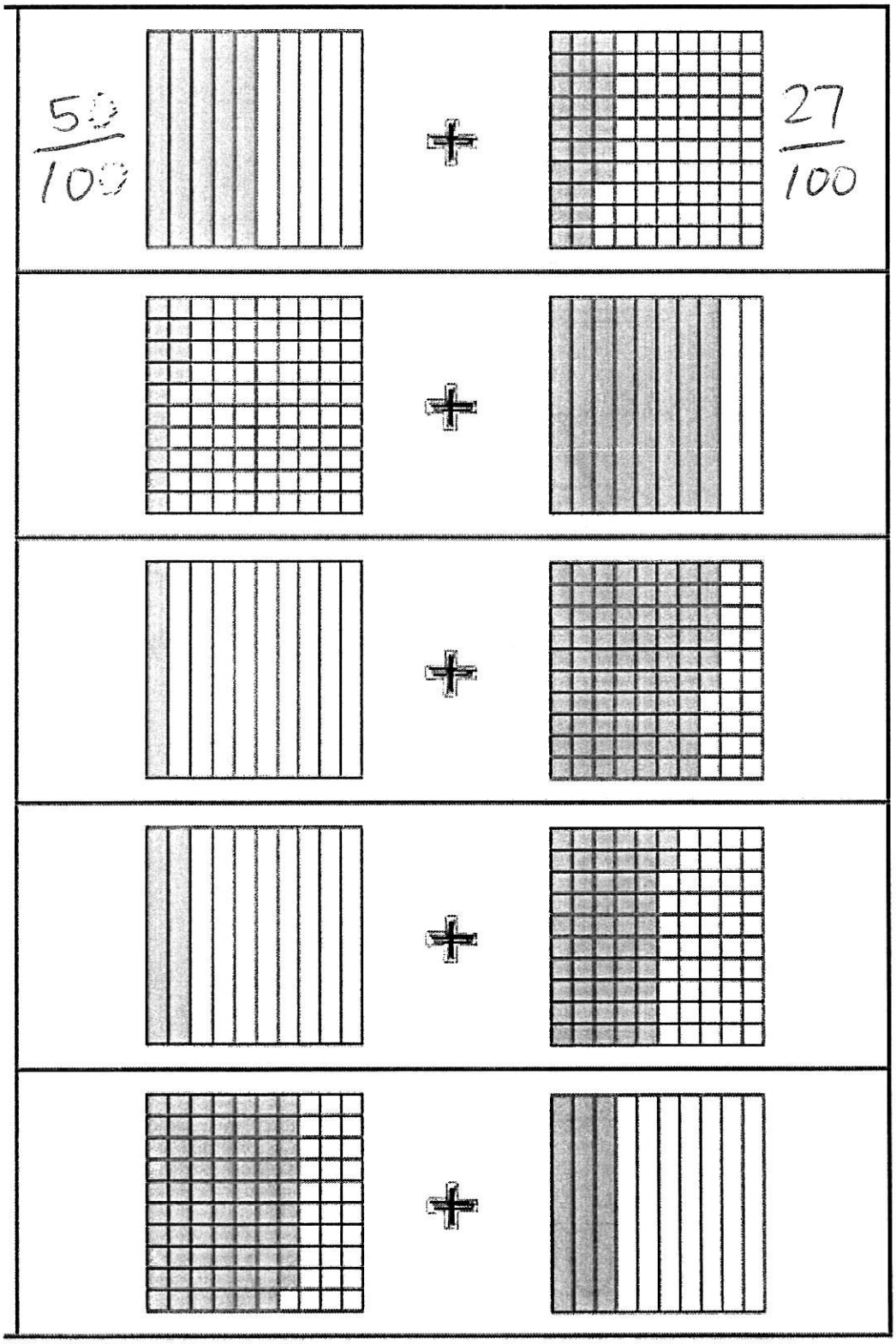
$\frac{3}{10} \overset{\times 10}{=} \frac{30}{100}$ $\times 10$ $\qquad \frac{60}{100} = \frac{\quad}{10} \qquad \frac{7}{10} = \frac{\quad}{100}$

$\frac{90}{100} = \frac{\quad}{10} \qquad \frac{1}{10} = \frac{\quad}{100} \qquad \frac{20}{100} = \frac{\quad}{10}$

$\frac{4}{10} = \frac{\quad}{100} \qquad \frac{80}{100} = \frac{\quad}{10} \qquad \frac{5}{10} = \frac{\quad}{100}$

Adding Fractions with mixed 10ths & 100ths

Write the fractions next to each picture and then write the answer out to the side.



Name: _____ Date: _____ Score: _____

Adding Fractions with Denominators of 10 & 100

{Find equivalent fractions. Then find the sum.}

$\frac{3}{10} + \frac{20}{100} = \_\_$

$\frac{60}{100} + \frac{2}{10} = \_\_$

$\frac{40}{100} + \frac{5}{10} = \_\_$

$\frac{7}{10} + \frac{10}{100} = \_\_$

$\frac{4}{10} + \frac{30}{100} = \_\_$

$\frac{50}{100} + \frac{4}{10} = \_\_$

$\frac{60}{100} + \frac{2}{10} = \_\_$

$\frac{9}{10} + \frac{10}{100} = \_\_$

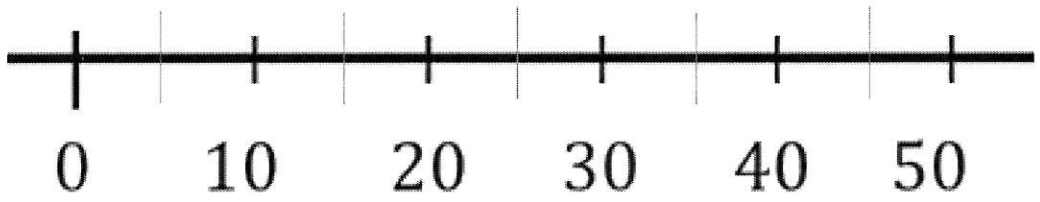
$\frac{1}{10} + \frac{40}{100} = \_\_$

$\frac{70}{100} + \frac{2}{10} = \_\_$

4.NF.5

Robot Round Up

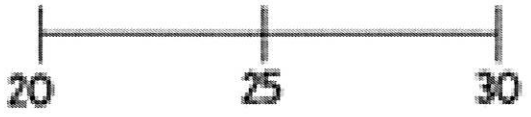
Name: _____



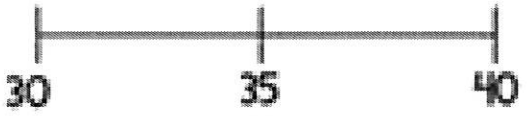
1. Is 12 closer to 10 or 20? _____
2. Is 44 closer to 40 or 50? _____
3. Is 28 closer to 20 or 30? _____
4. Is 35 closer to 30 or 40? _____
5. Is 46 closer to 40 or 50? _____
6. Is 9 closer to 0 or 10? _____
7. Is 19 closer to 10 or 20? _____
8. Is 33 closer to 30 or 40? _____
9. Is 21 closer to 20 or 30? _____
10. Is 44 closer to 40 or 50? _____

Directions: Use each number line to round to the nearest 10.

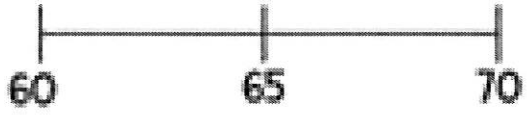
23 is closest to ⬡



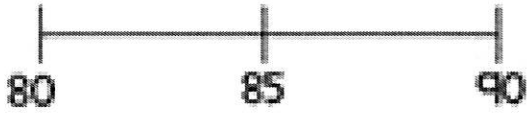
37 is closest to ⬡



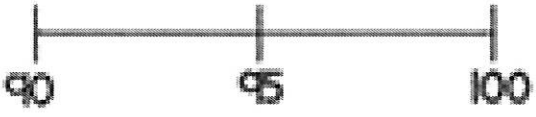
61 is closest to ⬡



89 is closest to ⬡

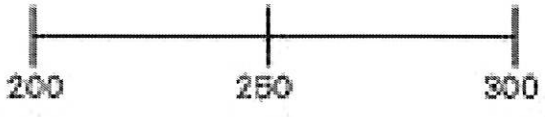


96 is closest to ⬡

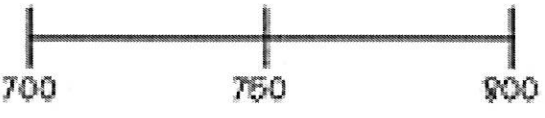


Directions: Use each number line to round to the nearest 100.

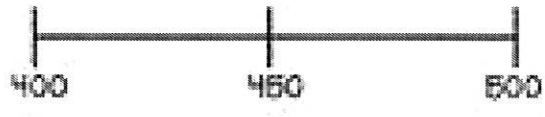
268 is closest to ⬡



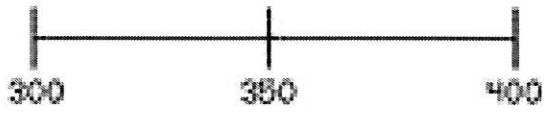
779 is closest to ⬡



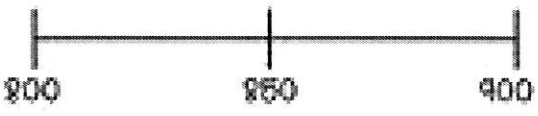
412 is closest to ⬡



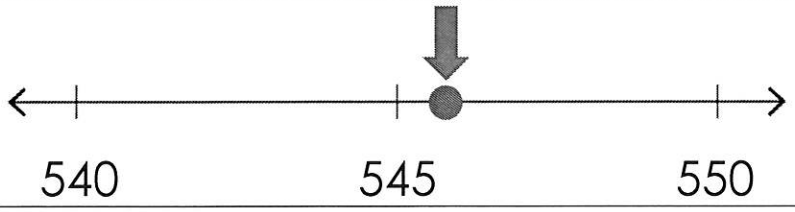
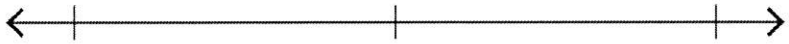
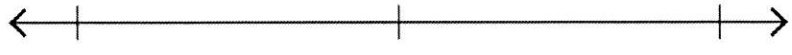
333 is closest to ⬡



891 is closest to ⬡



Name:_____ **Directions:** Create a number line to help you round each one to the **nearest 10**. (see example)

Number	Number Line	Round to the nearest 10
546		550
423		
386		
978		
221		
455		
814		

Directions: Round each number to the nearest 10, then round that same number to the nearest 100.

Nearest 10	Number	Nearest 100
840 OR 850? **850**	846	800 OR 900? **800**
	368	
	615	
	582	
	974	
	452	
	795	
	78	
	707	

Name : _____ Score : _____

Teacher : _____ Date : _____

Line up and add commas - SOLVE

1) 5756 + 5425 =

2) 5047 + 1000 =

3) 5990 + 1530 =

4) 1988 + 2455 =

5) 3595 + 3303 =

6) 6371 + 9923 =

7) 2086 + 6606 =

8) 1462 + 8117 =

9) 3383 + 6459 =

10) 5482 + 5055 =

11) 5689 + 3326 =

12) 4290 + 3593 =

Name : _____ Score : _____

Teacher : _____ Date : _____

Add commas & solve

7647 - 4178	3726 - 1458	8775 - 4704	8328 - 1300	6514 - 5058
8957 - 4744	7946 - 5424	9257 - 1703	6036 - 2129	6120 - 2963
4623 - 2396	7377 - 5217	8921 - 5792	9929 - 7907	8456 - 2279