Name _____ **Ms. Abadie's** _____ **Period**

Chapter 2	Rational Numbers: any number that can be written as a fraction; a number that can be written as a ratio of two integers (a positive or negative whole number.) *Example:* $-2 = \frac{-2}{1}$, $0.25 = \frac{1}{4}$
MAFS.7.NS.1.2	Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.
Essential Question	How do you write a rational number as a decimal? In this lesson I am *converting between decimals and fractions*, so I can *better understand equality*.
2.1 Rational Numbers	Terminating decimal: a decimal that ends *Example:* 1.5, -0.25, 10.625 Repeating decimal: a decimal that repeats *Example:* -1.333...= -1.3
Homework 2.1 Practice A #1-8	**Write the rational number as a decimal.** 1. $-\frac{6}{5} = -1.2$ 2. $-7\frac{3}{8} = -7.375$ 3. $-\frac{3}{11} = -.\overline{27}$ 4. $1\frac{5}{27} = 1.\overline{185}$
Place Value	. tenths, hundredths, thousandths (the place value the decimal ends becomes the denominator: 10, 100, 1000)
Homework 2.1 Practice A #9-16	**Write the decimal as a fraction or a mixed number in simplest form.** 5. -0.7 $\frac{-7}{10}$ 6. 0.125 $\frac{125}{100} \div 25 = \frac{5}{4}$ 7. -3.1 $-3\frac{1}{10}$ 8. -10.25 $-10\frac{25}{100} = -10\frac{1}{4}$
	Your skateboard ramp is $2\frac{3}{8}$ feet high. Your friend's skateboard ramp is $2\frac{2}{5}$ feet high. Which skateboard ramp is higher? Your friend's $2\frac{3}{8}$ $2\frac{15}{40}$ $<$ $2\frac{2}{5}$ $2\frac{16}{40}$

MAFS.7.NS.1.1	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers.
Essential Question	How do you add rational numbers? In this lesson I am *using what I know about adding integers*, so I can *add rational expressions*.
2.2 Adding Rational Numbers	Adding rational numbers with the same signs= add, keep sign Adding rational numbers with different signs= subtract, use bigger sign
Homework **2.2 Practice A #1-8**	

Add.

1. $-\frac{7}{8} + \frac{1}{4}$

$\frac{1}{4} = \frac{2}{8}$ (×2)

diff signs subtract

$-\frac{7}{8} + \frac{2}{8}$

$\boxed{-\frac{5}{8}}$

2. $-6\frac{1}{3} + \frac{20}{3}$

make improper

diff signs subtract

$-\frac{19}{3} + \frac{20}{3}$

$\boxed{\frac{1}{3}}$

3. $\frac{2}{1} + \left(-\frac{7}{2}\right)$

$\frac{2}{1} = \frac{4}{2}$ (×2)

diff signs Subtract

$\frac{4}{2} + \frac{-7}{2}$

$\boxed{-\frac{3}{2}}$

4. $-12.5 + 15.3$

diff signs Subtract sign of bigger number

$15.3 - 12.5$

$\boxed{2.8}$

5. $-8.15 + (-4.3)$

* line up decimal

same signs add & Keep

$8.15 + 4.3$

$\boxed{-12.45}$

6. $0.65 + (-2.75)$

diff signs subtract sign of bigger number

$2.75 - .65$

$\boxed{-2.10}$

MAFS.7.NS.1.1	Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.
Essential Question	How do you subtract rational numbers? In this lesson I am *using what I know about subtracting integers*, so I can *subtract rational expressions*.
2.3 Subtracting Rational Numbers	"add the opposite" (make the minus a plus and take the opposite sign of the number behind it) then use rules from adding
Homework **2.3 Practice A #1-6**	**1.** $\frac{1}{3} + \left(+\frac{1}{3}\right) = \frac{2}{3}$ **2.** $-3\frac{1}{3} - \frac{5}{6}$ $-\frac{10}{3} + \frac{-5}{6}$ $-\frac{20}{6} + \frac{-5}{6} = -\frac{25}{6} = -4\frac{1}{6}$ **3.** $4\frac{1}{2} - 5\frac{1}{4}$ $\frac{9}{2} - \frac{21}{4}$ $\frac{18}{4} + \frac{-21}{4}$ $-\frac{3}{4}$ **4.** $-8.4 + \overline{6.7}$ 8.4 +6.7 −15.1 **5.** $-20.5 + (+20.5)$ 0 **6.** $0.41 + (+0.07)$ .41 + .07 .48
Homework **2.3 Practice A #7-9**	**7. Find the distance between −7.5 and −15.3 on a number line.** ① write down the numbers ② Put a minus between them ③ Put absolute value around them $\lvert -7.5 - -15.3 \rvert$ $\lvert -7.5 + +15.3 \rvert$ $\lvert 7.8 \rvert$ 7.8 15.3 − 7.5 7.8

Homework
2.2 Practice A
#8-10

Evaluate the expression when $a = \frac{1}{2}$ and $b = -\frac{5}{2}$.

7. $b + 4a$

$-\frac{5}{2} + \frac{4}{1}\left(\frac{1}{2}\right)$

$-\frac{5}{2} + \frac{4}{2}$

$\boxed{-\frac{1}{2}}$

8. $|a + b|$

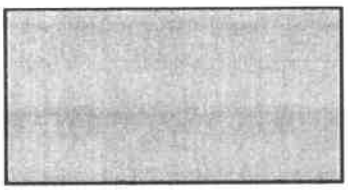
$\left|\frac{1}{2} + \frac{-5}{2}\right|$

$\left|-\frac{4}{2}\right|$

$|-2|$

$\boxed{2}$

Find the perimeter (add up all the sides).



$5\frac{1}{3} + 5\frac{1}{3} + 10\frac{1}{6} + 10\frac{1}{6}$

$5\frac{2}{6} + 5\frac{2}{6} + 10\frac{1}{6} + 10\frac{1}{6}$

$30\frac{6}{6} = \boxed{31 \text{ in}}$

The change in the price of a certain brand of cereal from 2010 to 2012 is shown in the table.

Year	Change (in dollars)
2010	+0.30
2011	~~+0.20~~
2012	~~-0.20~~

$3.69 + .30 = 3.99$

In 2009 the price of cereal was $3.69.

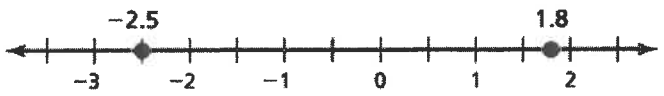
What was the price of the cereal at the end of 2012? #3.99

The total change in the price of a certain brand of cereal from 2008 to 2012 was -$0.20.

Complete the table to show possible price changes in 2010 and 2012.

Year	Change in Dollars
2008	~~+0.20~~
2009	+0.30
2010	-.30
2011	~~-0.20~~
2012	-.20
Total	-0.20

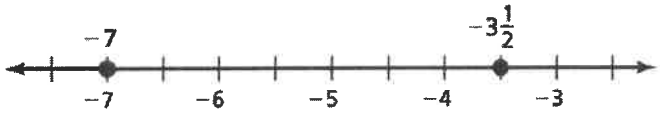
Find the distance between the two numbers on the number line.



$|-2.5 + -1.8|$

$|-4.3|$

4.3



$|-7 + +3\frac{1}{2}|$

$|-3\frac{1}{2}|$

$3\frac{1}{2}$

A gallon jug of milk is $\frac{3}{4}$ full. After breakfast the jug is $\frac{1}{12}$ full. Find the difference of the amounts before breakfast and after breakfast.

$\frac{3}{4} - \frac{1}{12}$

$\frac{9}{12} - \frac{1}{12} = \frac{8 \div 4}{12 \div 4} = \frac{2}{3}$

You buy a bag of dog food for $12.59 and a bottle of dog shampoo for $4.75. How much more did the dog food cost than the shampoo?

$$\begin{array}{r} {}^{1}\cancel{2}.{}^{1}59 \\ -\ 4.75 \\ \hline \$7.84 \end{array}$$

MAFS.7.NS.1.2	Apply and extend previous understandings of multiplication and division to multiply and divide rational numbers.
Essential Question	How do you multiply/divide rational numbers? In this lesson I am *using what I know about multiplying/dividing integers*, so I can *multiply/divide rational expressions*.
2.4 Multiplying/ Dividing Rational Numbers	Same signs- multiply/divide numbers and get a positive answer Different signs- multiply/divide numbers and get a negative answer
Homework **2.4 Practice A #5-16**	**Multiply or divide. Write fractions in simplest form.** **1.** $-\frac{6}{5} \div \left(-\frac{1}{2}\right)$ $\frac{-6}{5} \times \frac{-2}{1}$ $\frac{-12}{5} = -2\frac{2}{5}$ **2.** $\frac{1}{3} \div \left(-2\frac{2}{3}\right)$ $\frac{1}{3} \div \frac{-8}{3}$ $\frac{1}{\cancel{3}} \times \frac{-\cancel{8}}{8}$ $\frac{-1}{8}$ **3.** $1.8(-5.1) = -9.18$ 1.8×5.1 $18 + 900 = 918$ **4.** $-6.3(-0.6)$ $6.3 \times .6 = 3.78$ **5.** $-\frac{2}{3} \cdot 7\frac{7}{8} \cdot \frac{3}{2}$ $\frac{-\cancel{2}}{\cancel{3}} \cdot \frac{63}{8} \cdot \frac{\cancel{3}}{\cancel{2}}$ $\frac{-63}{8} = -7\frac{7}{8}$ **6.** $-7.2 \cdot 0.1 \cdot (-100)$ $7.2 \times .1 = .72$ $.72 \times 100 = 72$ $\frac{2}{5\overline{)12}}$ -10 2
	$9.408 \div (-2.45)$ $2.45 \overline{)9.4080}$ -735 2258 -1960 980 -980 0 -3.84 diff signs negative

	How many $\frac{2}{3}$-ounce packages of peanuts can be made with 8 ounces of peanuts? Explain how you found your answer. peanuts ÷ into packages $8 \div \frac{2}{3}$ $\frac{8}{1} \times \frac{3}{2} = \frac{24}{2} =$ 12 packages
	A 13.5-gallon gasoline tank is $\frac{4}{5}$ full. How many gallons will it take to fill the tank? $\frac{1}{5}$ left to fill $\frac{1}{5} \times 13.5 = \frac{13.5}{5}$ $5\overline{)13.5}$ 2.7, -10, 35 2.7
	Sandy uses $\frac{2}{7}$ of a pound of raisins in each batch of raisin bread. Yesterday, Sandy used $\frac{5}{7}$ of a pound of raisins. How many batches of raisin bread did Sandy make yesterday? $\frac{5}{7} \div \frac{2}{7}$ $\frac{5}{7} \times \frac{7}{2} = \frac{5}{2}$ $2\overline{)5}$, 2, -4, 1 $2\frac{1}{2}$ batches
	Joe and Scott equally share a pizza. If Scott eats $\frac{1}{2}$ of his portion of the pizza, what fraction of the whole pizza does he eat? $\frac{1}{2}$ of $\frac{1}{2}$ a pizza $\frac{1}{2} \times \frac{1}{2} =$ $\frac{1}{4}$
	In Homestead, $\frac{2}{5}$ of the households own pets. Of the households with pets, $\frac{1}{3}$ have cats. What fraction of the households in Homestead own cats? $\frac{1}{3}$ of the $\frac{2}{5}$ households $\frac{1}{3} \times \frac{2}{5} =$ $\frac{2}{15}$