7th Grade Mathematics

The Number System: Operations with Rational Numbers

Unit 1 Pacing Calendar – Math in Focus

ORANGE PUBLIC SCHOOLS

OFFICE OF CURRICULUM AND INSTRUCTION

OFFICE OF MATHEMATICS

From the Common Core State Standards:

In **Grade 7**, instructional time should focus on four critical areas: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples.

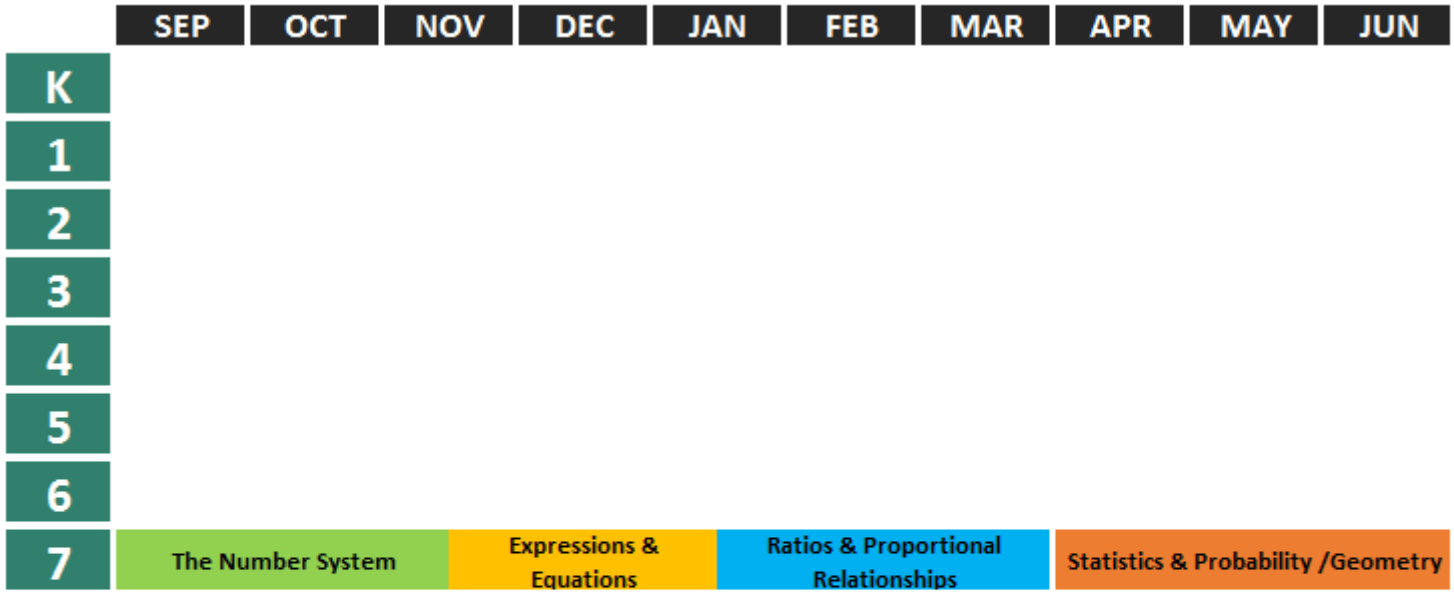
1. Students extend their understanding of ratios and develop understanding of proportionality to solve single- and multi-step problems. Students use their understanding of ratios and proportionality to solve a wide variety of percent problems, including those involving discounts, interest, taxes, tips, and percent increase or decrease. Students solve problems about scale drawings by relating corresponding lengths between the objects or by using the fact that relationships of lengths within an object are preserved in similar objects. Students graph proportional relationships and understand the unit rate informally as a measure of the steepness of the related line, called the slope. They distinguish proportional relationships from other relationships.

2. Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems.

3. Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three dimensional objects. In preparation for work on congruence and similarity in Grade 8 they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross-sections. They solve real-world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms.

4. Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences.

A STORY OF UNITS



The Number System: Operations with Rational Numbers

Expressions & Equations: Use properties of operations to generate equivalent fractions and solve real-life problems using numerical & algebraic expressions & equations

Ratios & Proportional Relationships: Analyze proportional relationships and use them to solve real-world and mathematical problems

Statistics & Probability / Geometry: Use random sampling, draw inferences, investigate chance processes, evaluate probability models, construct geometrical figures, and solve real-life problems.

7th Grade Unit 1: The Number System

Pacing Guide

Activity	New Jersey State Learning Standards (NJSLS)	Estimated Time (Blocks)
Chapter 1 & 2 Pre-Test (MIF)	7.NS.A.1; 7.NS.A.2; 7.NS.A.3	**1**
Chapter 1 Opener	7.NS.1; 7.NS.2d	1
1.1- Representing Rational Numbers on the Number Line	7.NS.1	2
1.2- Writing Rational Numbers as Decimals	7.NS.2d	3
1.3- Introducing Irrational Numbers	7.NS.1	1
1.4- Introducing the Real Number System	7.NS.2d	1
1.5- Introducing Significant Digits *Continue conversions using Long division *	7.NS.2d	2
Chapter 1 Wrap Up/ Review Lesson	7.NS.1; 7.NS.2d	1
Chapter 1 Test (MIF) *Optional*	7.NS.1; 7.NS.2d	1
Chapter 2 Transition Lesson	7.NS.1; 7.NS.2	1
Performance Task 1	7.NS.A.2d	**½**
2.1- Adding Integers	7.NS.1; 7.NS.1a	5
2.2- Subtracting Integers	7.NS.1; 7.NS.1c	3
Unit Review Lesson	7.NS.1	1
Unit 1 Assessment 1	7.NS.A.1	**1**
2.3- Multiplying and Dividing Integers	7.NS.2; 7.NS.2b	2
2.4- Operations with Integers	7.NS.3	1
2.5- Operations with Rational Numbers	7.NS.1d; 7.NS.2c; 7.NS.2a	3
2.6- Operations with Decimals	7.NS.1d; 7.NS.2c	3
Performance Task 2	7.NS.A.1	**1**
Chapter 2 Wrap Up/ Review Lesson	7.NS.A.1; 7.NS.A.2; 7.NS.A.3	1
Chapter 2 Test (MIF) *Optional*	7.NS.A.1; 7.NS.A.2; 7.NS.A.3	1
Unit Review Lesson	7.NS.A.2; 7.NS.A.3	2
Unit 1 Assessment 2	7.NS.A.2; 7.NS.A.3	**1**
Solidify Unit 1 Concepts / Project Based Learning		5
Total Time		**44½ Blocks**

Major Work Supporting Content Additional Content

Pacing Calendar

Please complete the pacing calendar based on the suggested pacing (*see Pacing Guide on page 1)*.

Chapter 1: The Real Number System: In this chapter, students extend their knowledge of numbers (whole numbers, integers, fractions, and decimals) to irrational numbers. They identify the numbers that make up the set of rational numbers and those that make up the set of real numbers. They locate numbers from both sets on the number line.

Chapter 2: Rational Number Operations: In this chapter, students learn to add and subtract integers with the same sign and with different signs. They learn how to add integers to their opposites and how to subtract integers by adding their opposites. Students also learn to find the distance between two integers on a number line. Next, students learn to multiply and divide integers, and then to evaluate expressions that include any combination of operations. Students then extend their operation skills to rational numbers, including decimals and percents, and they use their new skills to solve real-world problems.

SEPTEMBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Pacing Calendar

Please complete the pacing calendar based on the suggested pacing (*see Pacing Guide on page 1)*.

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Chapter 2: Rational Number Operations: In this chapter, students learn to add and subtract integers with the same sign and with different signs. They learn how to add integers to their opposites and how to subtract integers by adding their opposites. Students also learn to find the distance between two integers on a number line. Next, students learn to multiply and divide integers, and then to evaluate expressions that include any combination of operations. Students then extend their operation skills to rational numbers, including decimals and percents, and they use their new skills to solve real-world problems.

OCTOBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Pacing Calendar

Please complete the pacing calendar based on the suggested pacing (*see Pacing Guide on page 1)*.

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NOVEMBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

PARCC Assessment Evidence Statements

Type I Type II

NJSLS	Evidence Statement	Clarification	Math Practices	Calculator?
7.NS.1a	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.	-	MP.5	No
7.NS.1b-1	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative.	i) Tasks do not have a context. ii) Tasks are not limited to integers. iii) Tasks involve a number line. iv) Tasks do not require students to show in general that a number and its opposite have a sum of 0; for this aspect of 7.NS.1b-1, see 7.C.1.1 and 7.C.2.	MP.5 MP.7	No
7.NS.1b-2	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. b. Interpret sums of rational numbers by describing real-world contexts.	i) Tasks require students to produce or recognize real-world contexts that correspond to given sums of rational numbers. ii) Tasks are not limited to integers. iii) Tasks do not require students to show in general that a number and its opposite have a sum of 0; for this aspect of 7.NS.1b-1, see 7.C.1.1 and 7.C.2	MP.2 MP.3 MP.5	No
7.NS.1c-1	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. c. Understand subtraction of rational numbers as adding	i) Tasks may or may not have a context. ii) Tasks are not limited to integers. iii) Contextual tasks might, for example, require students to create or identify a situation described by a specific equation of the general form p – q = p + (–q) such as 3 – 5 = 3 + (–5). iv) Non-contextual tasks are not	MP.2 MP.7 MP.5	No

	the additive inverse, p – q = p + (–q). Apply this principle in real-world contexts.	computation tasks but rather require students to demonstrate conceptual understanding, for example, by identifying a difference that is equivalent to a given difference. For example, given the difference –1/3 – (1/5 + 5/8), the student might be asked to recognize the equivalent expression –1/3 + –(1/5 + 5/8).		
7.NS.1d	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. d. Apply properties of operations as strategies to add and subtract rational numbers	i) Tasks do not have a context. ii) Tasks are not limited to integers. iii)Tasks may involve sums and differences of 2 or 3 rational numbers. iv)Tasks require students to demonstrate conceptual understanding, for example, by producing or recognizing an expression equivalent to a given sum or difference. For example, given the sum –8.1 + 7.4, the student might be asked to recognize or produce the equivalent expression –(8.1 – 7.4).	MP.7 MP.5	No
7.NS.2a-1	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (–1)(–1) = 1 and the rules for multiplying signed numbers.	i) Tasks do not have a context. ii) Tasks require students to demonstrate conceptual understanding, for example by providing students with a numerical expression and requiring students to produce or recognize an equivalent expression using properties of operations. For example, given the expression (–3)(6 + –4 + –3), the student might be asked to recognize that the given expression is equivalent to (–3)(6 + –4) + (–3)(–3).	MP.7	No
7.NS.2a-2	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. a. Interpret products of rational numbers by describing real-world contexts.	-	MP.2 MP.4	No
7.NS.2b-1	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. b. Understand that integers can be divided, provided that the divisor is not zero, and	i) Tasks do not have a context. ii) Tasks require students to demonstrate conceptual understanding, for example, by providing students with a numerical expression and requiring students to produce or recognize an equivalent expression.	MP.7	No

	every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then -(p/q) = (–p)/q =p/(–q).			
7.NS.2b-2	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. c. Interpret quotients of rational numbers by describing real-world contexts.	-	MP.2 MP.4	No
7.NS.2c	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. c. Apply properties of operations as strategies to multiply and divide rational numbers.	i) Tasks do not have a context. ii) Tasks are not limited to integers. iii) Tasks may involve products and quotients of 2 or 3 rational numbers. iv) Tasks require students to compute a product or quotient, or demonstrate conceptual understanding, for example, by producing or recognizing an expression equivalent to a given expression. For example, given the expression (–8)(6)/(–3), the student might be asked to recognize or produce the equivalent expression –(8/3)(–6).	MP.7	No
7.NS.3	3 Solve real-world and mathematical problems involving the four operations with rational numbers.	i) Tasks are one-step word problems. ii) Tasks sample equally between addition/subtraction and multiplication/division. iii) Tasks involve at least one negative number. iv) Tasks are not limited to integers.	MP.1 MP.4	No
7.C.1.1	Base explanations/reasoning on the properties of operations. Content Scope: Knowledge and skills articulated in 7.NS.1 and 7.NS.2	i) Tasks should not require students to identify or name properties.	MP.1 MP.2 MP.3 MP.5 MP.6 MP.7	Yes
7.C.2	Base explanations/reasoning on the relationship between addition and subtraction or the relationship between multiplication and division. Content Scope: Knowledge and skills articulated in 7.NS.1 and 7.NS.2	-	MP.1 MP.2 MP.3 MP.5 MP.6 MP.7	Yes

Differentiated Instruction

Chapter 1

Assessment and Intervention

	ASSESSMENT	RtI STRUGGLING LEARNERS
DIAGNOSTIC	• Quick Check in Recall Prior Knowledge in Student Book A, pp. 3–6 • Chapter 1 Pre-Test in *Assessments*	• Skills 1–6 in *Transition Guide, Course 2*
ON-GOING	• Guided Practice • Lesson Check • Ticket Out the Door	• *Reteach* worksheets • *Extra Practice* worksheets • *Activity Book*, Chapter 1
END-OF-CHAPTER	• Chapter Review/Test • Chapter 1 Test in *Assessments* • ExamView® Assessment Suite CD-ROM Course 2	• *Reteach* worksheets

ELL ENGLISH LANGUAGE LEARNERS

Review the terms *rational*, *terminate*, and *irrational*.

Model Write the word *rational*. Underline the root *ratio*. Below that, write $0.25 = \frac{1}{4}$ and $0.333\ldots = 0.\overline{3} = \frac{1}{3}$. Write the word *irrational*. Underline the prefix *ir-*. Below that, write $\pi = 3.14159265\ldots$.

Say A *rational* number is a number you can write as a ratio. The decimal 0.25 *terminates*. It ends. 0.25 is a rational number. You can rewrite it as the ratio $\frac{1}{4}$. The decimal $0.\overline{3}$ does not terminate. It repeats. $0.\overline{3}$ is also a rational number. You can rewrite it as the ratio $\frac{1}{3}$. The prefix *ir-* means "not." An *irrational* number is a number that is *not* rational. You cannot rewrite an irrational number as a ratio. π is an irrational number. If you write π as a decimal, it does not terminate. It does not repeat.

For definitions, see Glossary, page 308, and Online Multi-Lingual Glossary.

ADVANCED LEARNERS

- Students can use a simple rule to determine whether a rational number in the form of a fraction will terminate or repeat when it is rewritten as a decimal. Explain that in order for a fraction to be rewritten as a terminating decimal, it must be possible to rewrite the fraction so that its denominator is a power of ten (10, 100, 1,000, etc.). If a fraction has a denominator that cannot be multiplied by a whole number to yield a power of ten, its decimal form will be repeating.
- Give students the following fractions: $\frac{5}{8}$, $\frac{4}{7}$, $\frac{5}{9}$, and $\frac{11}{16}$. Ask them to use the rule to decide whether each decimal will terminate or repeat and, if it terminates, to name the least power of 10 that the fraction's denominator can be rewritten as. *(Terminate, 1,000; Repeat; Repeat; Terminate, 10,000)*

To provide additional challenges use:

- *Enrichment*, Chapter 1
- Student Book A, Brain@Work problem

Differentiated Instruction

Chapter 2

Assessment and Intervention

	ASSESSMENT	RtI STRUGGLING LEARNERS
DIAGNOSTIC	• Quick Check in Recall Prior Knowledge in Student Book A, pp. 53–57 • Chapter 2 Pre-Test in *Assessments*	• Skills 7–15 in *Transition Guide, Course 2*
ON-GOING	• Guided Practice • Lesson Check • Ticket Out the Door	• *Reteach* worksheets • *Extra Practice* worksheets, Chapters 1–2 Cumulative Practice worksheets • *Activity Book*, Chapter 2
END-OF-CHAPTER	• Chapter Review/Test • Chapter 2 Test, Chapters 1–2 Benchmark Test in *Assessments* • ExamView® Assessment Suite CD-ROM Course 2	• *Reteach* worksheets

ELL ENGLISH LANGUAGE LEARNERS

Review the terms *zero pair* and *additive inverse*.

Model Write the following equations on the board: $1 + (-1) = 0$, $2 + (-2) = [1 + (-1)] + [1 + (-1)] = 0$.

Say A pairing of integers 1 and −1, whose sum is 0, is called a *zero pair*. 1 and −1 are a zero pair. 2 and −2 have two zero pairs.

Say −1 is the opposite of 1. Another name for opposite is *additive inverse*. −1 is the additive inverse of 1. 1 is the additive inverse of −1. We call −1 the *additive inverse* of 1 because when you *add* −1 to 1, the sum is 0. When you add a number to its additive inverse, the sum must be zero. −4 is the additive inverse of 4. 4 is the additive inverse of −4.

Model Write 3, −6, 9, −12, and 100 on the board. Have students name the additive inverse of each integer.

For definitions, see Glossary, page 308, and Online Multi-Lingual Glossary.

ADVANCED LEARNERS

- Students can use integer operations to compare the highest and lowest temperatures on different planets in the solar system. Have students do research to identify the highest and lowest temperatures on various planets. Once they have compiled their data, ask them to use integer operations to find a range of temperatures for each planet they researched. Have students create posters to share their data.
- You may want to suggest that students use a double bar graph to display their temperature data. Students can use a vertical axis for temperatures above and below 0°C (or 0°F).

To provide additional challenges use:

- *Enrichment*, Chapter 2
- Student Book A, Brain@Work problem

Name _____ Block _____ Date _____

Decimal Expansion of Fractions (NJSLS 7.NS.A.2d)

Sarah learned that in order to change a fraction to a decimal, she can use the standard division algorithm and divide the numerator by the denominator. She noticed that for some fractions, like $\frac{1}{4}$ and $\frac{1}{100}$ the algorithm terminates at the hundredths place. For other fractions, like $\frac{1}{8}$, she needed to go to the thousandths place before the remainder disappears. For other fractions, like $\frac{1}{3}$ and $\frac{1}{6}$, the decimal does not terminate. Sarah wonders which fractions have terminating decimals and how she can tell how many decimal places they have.

a. Convert each of the following fractions to decimals to help Sarah look for patterns with her decimal conversions:

$$\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}, \frac{1}{10}, \frac{1}{12}, \frac{1}{15}.$$

b. Which fractions on the list have terminating decimals (decimals that eventually end in 0's)? What do the denominators have in common?

c. Which fractions on the list have repeating decimals? What do the denominators have in common?

d. Which fractions $\frac{p}{q}$ (in reduced form) do you think have terminating decimal representations? Which do you think have repeating decimal representations?

7th Grade Decimal Expansion of Fractions Task – Rubric Name: _____ Date: _____

NJSLS: 7.NS.A.2d Type:_____ Teacher: _____

Task Description	• Clearly constructs and communicates a complete response based on concrete referents provided in the prompt or constructed by the student such as diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams. • Clearly constructs and communicates a complete response by ➢ using a logical approach based on a conjecture and/or stated assumptions ➢ providing an efficient and logical progression of steps ➢ using grade-level vocabulary, symbols, and labels ➢ providing a justification of a conclusion with minor computational error ➢ evaluating, interpreting and critiquing the validity and efficiency of others' responses				
Command Level Description	***Level 5:*** ***Distinguished Command*** Perform the task items accurately or with minor computation errors.	***Level 4:*** ***Strong Command*** Perform the task items with some non-conceptual errors	***Level 3:*** ***Moderate Command*** Perform the task items with minor conceptual errors and some computation errors.	***Level 2:*** ***Partial Command*** Perform the task items with some errors on both math concept and computation.	***Level 1:*** ***No Command*** Perform the task items with serious errors on both math concept and computation.
Score range	*13-15 pts*	*10-12 pts*	*6-9 pts*	*3-5 pts*	*0-2 pts*
Task Score & PLD Assigned					

Decimal Expansion of Fraction – Scoring Guide **NAME: _____**

#	Answer	Scoring
Part A	$\frac{1}{2} = 0.5$ | $\frac{1}{3} = 0.\overline{3}$ | $\frac{1}{4} = 0.25$ | $\frac{1}{5} = 0.2$ | $\frac{1}{6} = 0.16\overline{6}$ | $\frac{1}{10} = 0.1$ | $\frac{1}{12} = 0.08\overline{3}$ | $\frac{1}{15} = 0.0\overline{6}.$ The long division process on the most difficult of these fractions, 1/12, is shown below: $12\overline{)\,1.0000}$ = 0.0833 0.96 0.040 0.036 0.0040 0.0036 0.0004 ***Notice that the remainder after subtracting 8 x 12(hundredths) is the same as the remainder after subtracting 3 x 12(thousandths), namely 4. This means that the 3 in the decimal repeats: we continue to take away 3 groups of 12 and the remainder is always 4. Those fractions which repeat can be found the same way as 1/12. **	1 points: 1 point for each correct conversion. **8 TOTAL POINTS**
Part B	The following fractions when converted result in terminating decimals: ½, ¼, 1/5, and 1/10. Taking ¼ as an example, we can see where the terminating decimal comes from by observing that 4 is a factor of 100: specifically we use the fact that 4 x 25= 100. $\frac{1}{4} = \frac{1 \times 25}{4 \times 25} = \frac{25}{100} = 0.25$ All of the denominators of the four fractions are factors of 100 and can be converted in the same way.	2 points: 1 point for the correct list of fractions and 1 point for explaining why each decimal terminates. **2 TOTAL POINTS**
Part C	The fractions with repeating decimals on the list are : 1/3, 1/6, 1/12, and 1/15. Each of these fractions has a prime factor different from 2 or 5 in the denominator: 3, 6, 12, and 15 have a prime factor of 3. Unlike in the case of part (b), multiplying by a power of 10 will never result in a whole number here because a factor of 3 will always remain in the denominator. This means that the decimals do not terminate.	2 points: 1 point for the correct list of fractions and 1 point for explaining why each decimal repeats. **2 TOTAL POINTS**
Part D	The examples studied here indicate that the pattern of a decimal expansion is determined by the denominator (though different numerators should be tried to see if the 1 in the numerator of all of these fractions plays an important role). When the only prime factors of the denominator are 2 and 5 the decimal terminates. When the denominator has a prime factor other than 2 or 5 the decimal eventually repeats. More work would be necessary to see if this always holds: this would mean looking at more fractions with different numerators and denominators and eventually thinking carefully about the division algorithm. ****This is a sample response. Answers may vary****	3 points: 2 points for correct explanation and 1 point for providing an example **3 TOTAL POINTS**

Name _____ Block _____ Date _____

Distances Between Houses (NJSLS 7.NS.A.1)

Aakash, Bao Ying, Chris, and Donna all live on the same street as their school, which runs from east to west.

- Aakash lives $5\frac{1}{2}$ blocks to the west.
- Bao Ying lives $4\frac{1}{4}$ blocks to the east.
- Chris lives $2\frac{3}{4}$ blocks to the west.
- Donna lives $6\frac{1}{2}$ blocks to the east.

a. Draw a picture that represents the positions of their houses along the street.

b. Find how far is each house from every other house?

c. Represent the relative position of the houses on a number line, with the school at zero, points to the west represented by negative numbers, and points to the east represented by positive numbers.

d. How can you see the answers to part (b) on the number line? Using the numbers (some of which are positive and some negative) that label the positions of houses on the number line, represent these distances using sums or differences.

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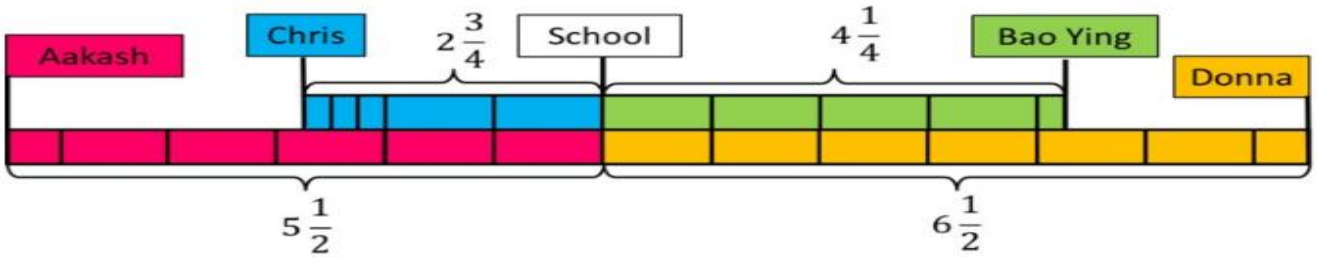
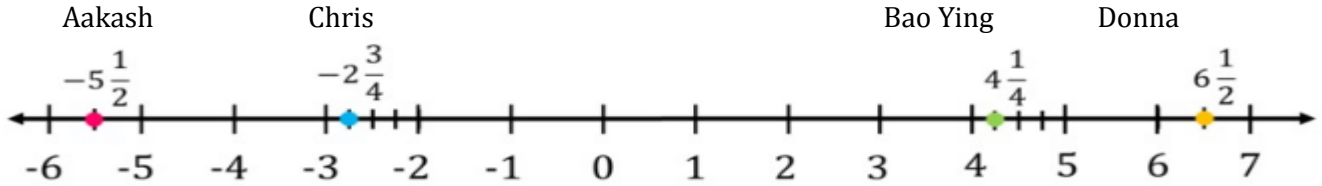
7th Grade Distances Between Houses Task – Rubric Name: _____ Date: _____

NJSLS: 7.NS.A.1 Type:_____ Teacher: _____

Task Description	• Clearly constructs and communicates a complete response based on concrete referents provided in the prompt or constructed by the student such as diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams. • Clearly constructs and communicates a complete response by ➢ using a logical approach based on a conjecture and/or stated assumptions ➢ providing an efficient and logical progression of steps ➢ using grade-level vocabulary, symbols, and labels ➢ providing a justification of a conclusion with minor computational error ➢ evaluating, interpreting and critiquing the validity and efficiency of others' responses				
Command Level Description	***Level 5:*** ***Distinguished Command*** Perform the task items accurately or with minor computation errors.	***Level 4:*** ***Strong Command*** Perform the task item with some non-conceptual errors	***Level 3:*** ***Moderate Command*** Perform the task items with minor conceptual errors and some computation errors.	***Level 2:*** ***Partial Command*** Perform the task items with some errors on both math concept and computation.	***Level 1:*** **No Command** Perform the task items with serious errors on both math concept and computation.
Score range	*27-31 pts*	*19-26 pts*	*13-18 pts*	*6-12 pts*	*0-5 pts*
Task Score & PLD Assigned					

Distances Between Houses – Scoring Guide **NAME: _____**

#	Answer	Scoring
Part A	 **** There are many ways to draw a picture that represents this situation	2 points: 1 point for the correct location away from the school and 1 point for the correct distance representation (correct fraction representation) **8 TOTAL POINTS**
Part B		2 points: 1 point for the correct answer and 1 point for showing work **12 TOTAL POINTS**
Part C		2 points: 1 point for the correct location away from the school and 1 point for the correct distance representation (correct fraction representation) **8 TOTAL POINTS**
Part D	The distance between the houses is represented by the distance between the points that correspond to the houses on the number line. This can be computed by subtracting the numbers that represent the position of the house relative to the school. For example, to find the distance between Bao Ying and Chris, we subtract – 2 ¾ from 4 ¼ . We can communicate this more clearly by labeling the distance between the points with the difference of the numbers on the number line.	3 points: 2 points for correct explanation and 1 point for using an example **3 TOTAL POINTS**

21st Century Career Ready Practices

CRP1. Act as a responsible and contributing citizen and employee.
CRP2. Apply appropriate academic and technical skills.
CRP3. Attend to personal health and financial well-being.
CRP4. Communicate clearly and effectively and with reason.
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP7. Employ valid and reliable research strategies.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP9. Model integrity, ethical leadership and effective management.
CRP10. Plan education and career paths aligned to personal goals.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.

For additional details see **21st Century Career Ready Practices** .