Grade 8 Unit 1 Week 1

Parents: Please help your child choose the most appropriate assignment(s) to complete each day. When the day's assignment is done, students finish the two reflection statements on this page.

Please note Extra Practice activities are on-level for the grade level. Re-Engage activities give students additional support.

	Monday	Tuesday	Wednesday	Thursday	Friday
Topic	Convert fractions to decimals and determine if the answer is terminating or repeating.	Identify rational and irrational numbers and the difference between them.	Convert repeating decimals into fractions.	Estimate the value of an irrational square root.	Compare and order sets of rational and irrational numbers.
Assignment	Unit 1 Lesson 1 Re-Engage A Re-Engage B	Unit 1 Lesson 3 Re-Engage A Re-Engage B Extra Practice	Unit 1 Lesson 5 Re-Engage A Re-Engage B Extra Practice	Unit 1 Lesson 7 Re-Engage Extra Practice	Unit 1 Lesson 8 Re-Engage Extra Practice
Video link	<u>Unit 1 Lesson 1</u>	Unit 1 Lesson 3	<u>Unit 1 Lesson 5</u>	<u>Unit 1 Lesson 7</u>	<u>Unit 1 Lesson 8</u>
Reflection	One thing I was successful with is One thing I need more help with is	One thing I was successful with is One thing I need more help with is	One thing I was successful with is One thing I need more help with is	One thing I was successful with is One thing I need more help with is	One thing I was successful with is One thing I need more help with is

Find this packet on swunmath.com. Click on the hyperlinks to jump to the lesson videos.



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Name:

Date:

Model

Dividing terminating decimals				
<u>5</u>	Step 1. Rewrite in working form and divide	\longrightarrow	8) 5	
8	Step 2. Insert decimals and zeros	\longrightarrow	8) <u>5.</u>	
	Step 3. Multiply, Subtract and compare	\longrightarrow	$ \begin{array}{r} 0.6 \\ \overline{) 5.000} \\ -\underline{4.8} \\ 20 \end{array} $	
	Step 4. Bring Down and repeat.	\longrightarrow	Answer: 0.625	
			8) 5.000 - <u>48</u> ↓ 20 - <u>16</u> ↓ 40	
			- <u>40</u> 0	

Structured Guided Practice

Directions: Convert each fraction to a terminating decimal.

1.	<u>3</u> 4	×	2.	<u>5</u> 4	×



Re-Engage Unit 1 Lesson 1-2a: Convert Fractions to Terminating Decimals



Student Practice

Directions: Convert each fraction to a terminating decimal.

1.	32	2.	4 5
3.	<u>5</u>	4.	<u>6</u> 5
5.	<u>9</u> 8	6.	<u>13</u> 8



Re-Engage Unit 1 Lesson 1-2b: Convert Fractions to Repeating Decimals

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Name:

Date:

Model

<u>5</u>	Step 1. Rewrite in working form and divide	\longrightarrow	3) 5
3	Step 2. Insert decimals and zeros	\longrightarrow	3) 5.0
	Step 3. Multiply, subtract and compare		1 6 3) 5. 0 0 0 -3. 0
			2.0
	Step 4. Bring down and repeat.	\longrightarrow	Answer: 1.6
			3) 5. 000
			- <u>3.0</u> ↓ 2.0
			- <u>1.8</u> ↓ 20
			- <u>18</u> and so on

Structured Guided Practice

Directions: Convert each fraction to a repeating decimal.

1.	<u>11</u> 6	×	2.	7 11	×







Student Practice

Directions: Convert the Fraction to a Repeating Decimal.

1.	83	2.	<u>1</u> 9
3.	<u>13</u> 9	4.	<u>11</u> 12
5.	1 6	6.	<u>8</u> 9



Re-Engage Unit 1 Lesson 3a: Determine if Square Root is Rational or Irrational



Name:

Date:

Model

Model 1

 $\sqrt{100}$

Directions: Determine if the square root is rational or irrational.

Step 1. Notice that the number inside the radical, 100 is a perfect square.

$1^2 = 1$	5 ² = 25	$9^2 = 81$
$2^2 = 4$	$6^2 = 36$	$10^2 = 100$
$3^2 = 9$	$7^2 = 49$	$11^2 = 121$
$4^2 = 16$	8 ² = 64	$12^2 = 144$

Step 2. Since $10 \times 10 = 100$, then solve $\sqrt{100}$ to be 10.

Step 3. Since $\sqrt{100}$ = 10 and 10 is a positive whole number, $\sqrt{100}$ is rational.

Model 2

 $\sqrt{19}$

Directions: Determine if the square root is rational or irrational.

Step 1. Notice that the number inside the radical, 19 is NOT a perfect square.

$1^2 = 1$	$5^2 = 25$	$9^2 = 81$
$2^2 = 4$	$6^2 = 36$	$10^2 = 100$
$3^2 = 9$	7 ² = 49	$11^2 = 121$
4 ² = 16	8 ² = 64	$12^2 = 144$

Step 2. A calculator can be used to see that the solution is a non-repeating, nonterminating decimal. Step 3. Since $\sqrt{19}$ = 4.3588989435.. it is irrational.

Structured Guided Practice

Directions: Determine if the square root is rational or irrational.

1. √ <u>144</u>	2. √36
3 . √ <u>108</u>	4. √ <u>54</u>







Student Practice

Directions: Determine if the square root is rational or irrational.

1. √ <u>16</u>	2. $\sqrt{49}$
3 . √100	 √17
5. √61	4 . √110



Re-Engage Unit 1 Lesson 3b: Determine if Decimal is Rational or Irrational

Model



Name:

Date: _____

Model 1 Model 2 0.777... 3.2645... Directions: Determine if the decimal is Directions: Determine if the decimal is rational or irrational. rational or irrational. Step 1. Notice that the number after the Step 1. Notice that the numbers after the decimal point repeats. decimal point do repeat or have any pattern. Step 2. Since 0.777... is a repeating decimal Step 2. Since 3.2645... is a non-repeating, it is rational. non-terminating decimal, it is irrational.

Structured Guided Practice

Directions: Determine if the decimal is rational or irrational.

1. 0.6666	2. 2.78787
3. 0.65854	4. 3.4274645







Student Practice

Directions: Determine if the decimal is rational or irrational.

1. 0.2222	2. 0.4545
3. 1.5555	4. 0.73625
5. 0.27464	6. 3.82735



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Name:	_	
Date:		

Directions: Determine if the number is rational or irrational. Justify your answer.

1. √35	2. 0.417346
3. ²⁴ / ₆	 √169
5. 0.124359	6. 5.27

Re-Engage Unit 1 Lesson 4-5a: Find Powers of 10 to Create an Equation



Name:

Date:

Model

Model 1

0.55555...

Directions: Find the power of 10 and create an equivalent equation.

Step 1. Determine the power of 10 depending on the place value where the digits begin repeating.

Step 2. The digit 5 begins repeating after one place to the right of the decimal. Therefore, this is 10 to power of 1 or $10^{1} = 10$.

0_⊙55555555

Step 3. Create an equation where x = 0.555... and 10x = 5.5555...

Model 2

1.0424242...

Directions: Find the power of 10 and create an equivalent equation.

Step 1. Determine the power of 10 depending on the place value where the digits begin repeating.

Step 2. The 42 begins repeating after three places to the right of the decimal. Therefore, this is 10 to power of 3 or 10 3 = 1000.

1.0.42424242 1 2 3

Step 3. Create an equation where x = 1.0424242... and 1000x = 1042.4242...

Structured Guided Practice

Directions: Find the power of 10 and create an equivalent equation.

1. 0.4444	2. 0.3333
3. 1.0646464	4. 2.0939393



Re-Engage Unit 1 Lesson 4-5a: Find Powers of 10 to Create an Equation



Student Practice

Directions: Find the power of 10 and create an equivalent equation.

1. 0.8888	2. 0.6666
3. 0.2222	4. 2.0878787
5. 4.0121212	6. 8.0262626





Name:

Date:

Model

Model 1: Vertical Method	Model 2: Vertical Method
100x = 15.1515 −1x = −0.1515	1000x = 274.7474 -10x = -2.7474
Directions: Use the vertical method to convert 0.1515 to a fraction.	Directions: Solve
Step 1. Subtract the left side by taking 100x – 1x to get 99x.	Step 1. Subtract the left side by taking 1000x – 10x to get 990x.
Step 2. Subtract the right side by taking 15.1515 – 0.1515 to get 15	Step 2. Subtract the right side by taking 274.7474 – 2.7474 to get 272
Step 3. Replace both sides with 99x = 15.	Step 3. Replace both sides with 990x = 272.
Solution is ¹⁵ / ₉₉ = 0.1515	Solution is ²⁷² / ₉₉₀ = 0.27474

Structured Guided Practice

Directions: Subtract both sides.

1.	100x = 72.7272 -1x = -0.7272	2.	100x = 44.444 -1x = -0.444
3.	1000x = 758.5858 -10x = -7.5858	4.	1000x = 386.8686 -10x = -3.8686





Student Practice

Directions: Subtract both sides.

1.	100x = 16.1616 -1x = -0.1616	2.	100x = 95.9595 -1x = -0.9595
3.	100x = 53.5353 -1x = -0.5353	4.	1000x = 561.6161 -10x = -5.6161
5.	1000x = 882.8282 -10x = -8.8282	6.	1000x = 324.2424 -10x = -3.2424



Unit 1 · Lessons 4-5: Convert Repeating Decimals to Fractions

Name:

Date:

Directions: Convert the decimal into a fraction.

1. 0.8181	2. 0.5
3. 0.714285714285	4. 0. 4
5. 0.5656	6. 0. 35



Re-Engage Unit 1 Lesson 6-7: Find Square Roots on a Number Line

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Name:

Date:

Model

Directions: Place the equivalent square root on the number line.

Step 1. Determine which number, multiplied by itself is equal to 36. $6 \times 6 = 36$

Step 2. Draw a number line and label the 6 and $\sqrt{36}$ at the same point.



 $\sqrt{36}$

Structured Guided Practice

Directions: Place the equivalent square root on the number line.





Re-Engage Unit 1 Lesson 6-7: Find Square Roots on a Number Line



Student Practice

Directions: Place the equivalent square root on the number line.



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Directions: Estimate the decimal value. Round to the nearest tenth. Use a calculator to check.





Re-Engage Unit 1 Lesson 8: Comparing Rational and Irrational Numbers

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Name:

Date:

Model



Structured Guided Practice

Directions: Compare using < or > .





Re-Engage Unit 1 Lesson 8: Comparing Rational and Irrational Numbers



Student Practice

Directions: Compare using < or > .





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Name: Date:

Directions: Place the numbers on a number line. Then compare using an inequality.

1. √15, 5, √27, 4	2. √61, 8, √45, 7
3. √4, 3, √7, 2.5,√6	 √65, √77, √45, √54, √111
5. √18, 4, √20, 6,√50, 3	6. √4, 3²,√225, 4²,√19,0²,√0.25

