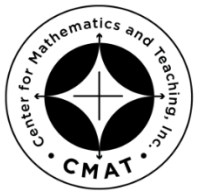
Name_____ Period _____ Date _____



MathLinks

6-4
STUDENT PACKET

MATHLINKS: GRADE 6
STUDENT PACKET 4
DECIMAL CONCEPTS

WORD BANK

Word or Phrase	Definition or Description	Example or Picture
area model for fractions		
decimal		
denominator		
equivalent fractions		
fraction		
linear model for fractions		
numerator		
percent		
place value		

FRACTIONS AND DECIMALS

Summary

We will represent fractions and decimals with pictures (area models), numbers, and words. We will write fractions whose denominators are powers of 10 in decimal form.

Goals

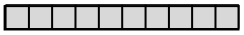
- Use an area model to explore fraction and decimal concepts.
- Represent fractions and decimals using picture, numbers, and words.
- Link fraction notation to decimal notation.
- Write decimals in expanded forms.

Warmup

1. Here are some pictorial representations of base-10 blocks.

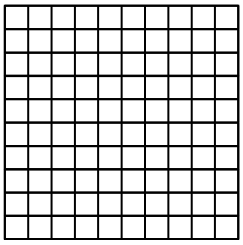
If the small square has a value of 1 unit, then…

what is the value of the stick? _____

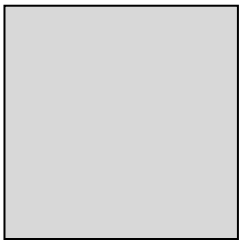


or

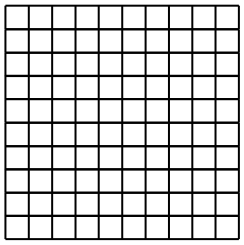
…and the value of the big square? _____



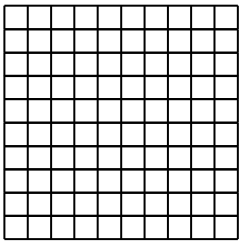
or



2. Shade the big square below to show that 40 = 4(10). Explain.



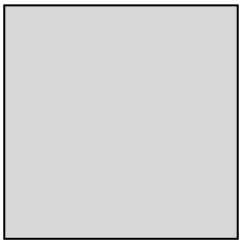
3. Shade the big square below to show that 82 = 8(10) + 2. Explain.



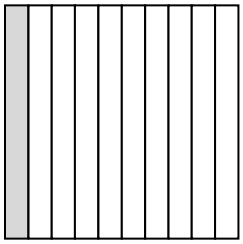
TENTHS AND HUNDREDTHS

Here are some pictorial representations of "base-10 blocks."

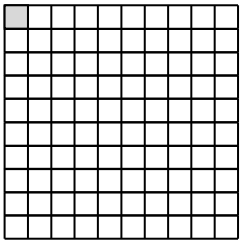
If this big square has a value of 1 unit, then…



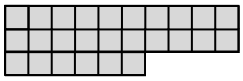
1. What is the value of this shaded part? ____

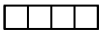


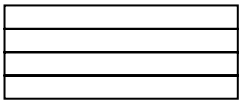
2. What is the value of this shaded part? ____

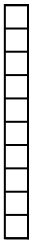


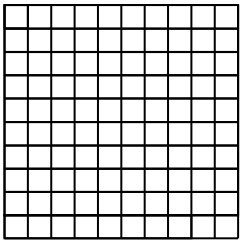
The big square has a value of 1. Use the base-10 values above to name these shaded parts using words and as fractions.

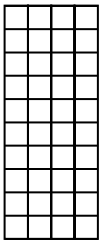
3. 

4. 

5. 

6. 

7. 

8. 

9. Which fractions from problems 3 – 8 represent the same value? How do you know?

THE BASE-10 PLACE VALUE SYSTEM

Our place value number system is a positional number system in which the value of a digit in the number is determined by its location or place. In our "base-10" place value system, each place represents a power of 10.

Name of the place	**hundreds**	**tens**	**ones**	**tenths**	**hundredths**	**thousandths**
Value of the place (fraction form)	100	10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1{,}000}$
Value of place (decimal form)	100	10	1	0.1	0.01	0.001

1. Put a decimal point (•) in its correct location on the place value chart above. The decimal point separates the whole number part (to the left) from its fraction part (to the right).

For the number, 723.045:

2. Write the whole number part in words.

3. What is the value of the 2? _____ _____ _____
   in words as a number in expanded form

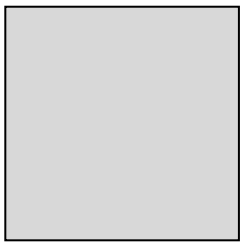
4. Write the part after the decimal in words.

5. Write the part after the decimal as a fraction.

6. Write the entire number in words.

7. Write the entire number as a mixed number.

LINKING FRACTIONS AND DECIMALS

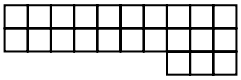
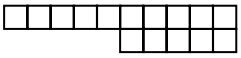
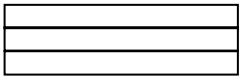
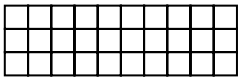


represents 1

represents $0.1 = \frac{1}{10}$

represents $0.01 = \frac{1}{100}$

Any fraction whose denominator is a power of 10 can be written as a decimal. Write each pictorial representation using words, in fraction form, and in decimal form.

	Diagram	Words	Fraction	Decimal
1.		Twenty-three hundredths	$\frac{23}{100}$	0.23
2.				
3.				
4.				
5.				

6. Problem # _____ and problem # _____ represent equivalent fractions. Write these equivalents as fractions and decimals.

$$\underset{\text{fraction}}{\_\_\_\_\_} = \underset{\text{fraction}}{\_\_\_\_\_} = \underset{\text{decimal}}{\_\_\_\_\_} = \underset{\text{decimal}}{\_\_\_\_\_}$$

Use the pictorial representations above to support your answers.

7. Explain why the following statement is **incorrect**: $0.23 > 0.3$.

8. Why is 0.03 smaller than 0.3?

EXPANDED FORMS OF DECIMALS

The standard form for a decimal is given. Write each number in three different expanded forms.

	Expanded Form #1	Expanded Form #2	Expanded Form #3
1.	20.65 20 + 0.6 + 0.05	20.65 $2(10) + 6\left(\frac{1}{10}\right) + 5\left(\frac{1}{100}\right)$	20.65 2(10) + 6(0.1) + 5(0.01)
2.	0.849	0.849	0.849
3.	53.07	53.07	53.07
4.	106.004	106.004	106.004

Each number below is written in an expanded form. Write the number in standard form.

5. 8 + 0.06 + 0.005

6. 2(100) + 3(1) + 9(0.01)

7. $7\left(\frac{1}{1{,}000}\right) + 4\left(\frac{1}{10}\right) + 2(1)$

8. Eduardo says that 48.76 = 48 + 0.7 + 0.06 is in "Expanded Form #1." Explain why he is not correct and write the statement correctly in "Expanded Form #1."

DECIMAL PLACE VALUE AND NUMBER LINES

Summary	Goals
We will compare and order decimals on a number line and on a ruler.	• Compare and order decimals. • Locate decimals on a ruler and on a number line.

Warmup

1. Place the decimal point in its proper location on the place value chart.

Name of the place	**hundreds**	**tens**	**ones**	**tenths**	**hundredths**	**thousandths**
Value of the place (fraction form)	100	10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1{,}000}$
Value of the place (decimal form)	100	10	1	0.1	0.01	0.001

2. Write the number 436.917 in words.

3. Circle the digit in the tens place. 4 3 6 . 9 1 7

4. Circle the digit in the ten**th**s place. 4 3 6 . 9 1 7

5. Circle the digit in the hundreds place. 4 3 6 . 9 1 7

6. Circle the digit in the hundred**th**s place. 4 3 6 . 9 1 7

7. Circle the digit in the ones place. 4 3 6 . 9 1 7

8. Circle the digit in the thousand**th**s place. 4 3 6 . 9 1 7

READING A METERSTICK

A meterstick (about the length of a baseball bat) can be thought of as a number line representation for decimals between zero and one.

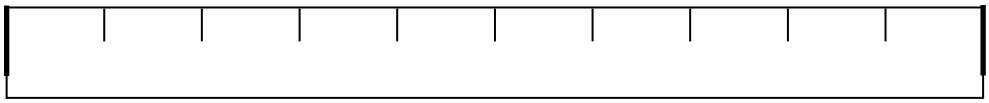
1. A decimeter (about the length of a cell phone) is one-tenth ($0.1 = \frac{1}{10}$) of a meter. Use decimal notation to label this reduced meterstick in tenths of a meter.

0 meters 1 meter

2. Graph and label the following points above.

Point A: 0.1 meters Point B: 0.9 meters Point C: 0.55 meters

3. A centimeter (about the diameter of a pencil) is one hundredth ($0.01 = \frac{1}{100}$) of a meter. Use decimal notation to label this enlarged decimeter stick in hundredths of a meter.



0 meters 0.1 meter or 1 decimeter

4. Graph and label the following points above.

Point D: 0.01 meters Point E: 0.07 meters Point F: 0.025 meters

5. A millimeter (about the thickness of a dime) is one thousandth ($0.001 = \frac{1}{1{,}000}$) of a meter. Use decimal notation to label this enlarged centimeter stick in thousandths of a meter.

0 meters 0.01 meter or 1 centimeter

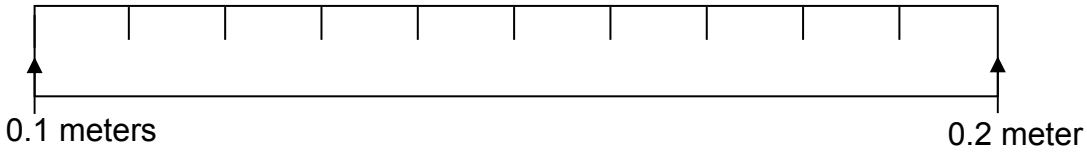
5. Graph and label the following points above.

Point G: 0.001 meters Point H: 0.006 meters Point J: 0.0075 meters

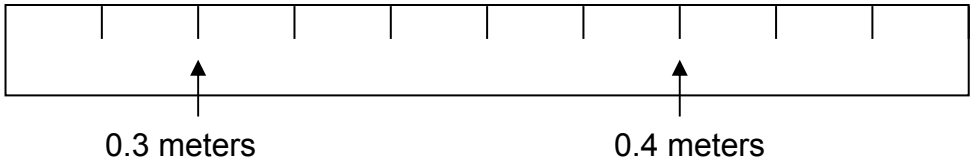
READING A METERSTICK (Continued)

Use decimal notation to mark all tick marks and end points on each measurement stick.

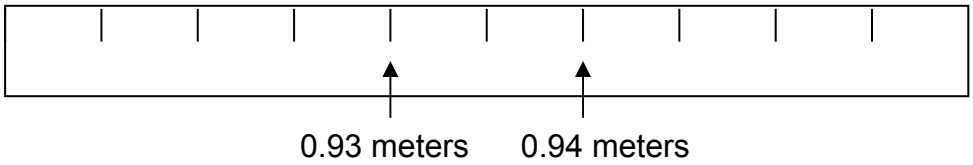
7.



8.



9.



10.

Use the measurement sticks above to help you answer these questions.

11. What length is half way between 0.3 meters and 0.4 meters? _____
Write this length in words.

12. Randall says that 0.17 > 0.2 because 17 > 2. Is he correct? _____ Explain.

13. Candy says that 0.93 meters = 0.930 meters. Is she correct? _____ Explain.

ORDERING NUMBERS BETWEEN 0 AND 1

1. Circle all of the numbers that have the same value as 0.3.

$\frac{3}{10}$	3 tens	$\frac{30}{100}$	0.03	30 hundredths	0.3003 tenths	0.30

Order these numbers from least to greatest.

2. 0.240 0.56 0.8 0.111 0.099

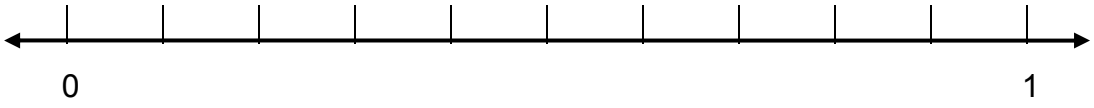
_____ < _____ < _____ < _____ < _____

3. 0.7 0.32 0.07 0.032 0.145

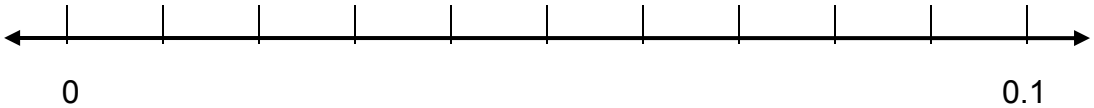
_____ < _____ < _____ < _____ < _____

Label the number lines below using the scales provided. Then write letters above the number lines to estimate the placement of the given numbers.

4. (A) 0.51 (B) 0.25 (C) 0.32 (D) 0.99 (E) 0.01

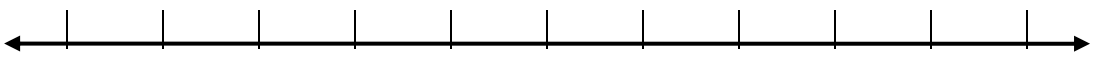


5. (F) 0.011 (G) 0.025 (H) 0.029 (J) 0.049 (K) 0.099

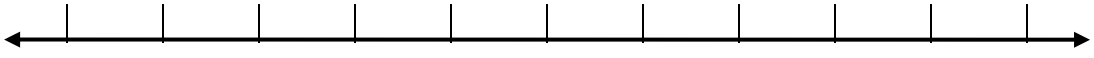


Label the number lines below using the scales provided. Then write letters above the number lines to estimate the placement of the given numbers.

6. (L) 0.081 (M) 0.75 (N) 0.38 (P) 0.5 (R) 0.05



7. (T) 0.111 (U) 0.125 (V) 0.159 (W) 0.10 (Y) 0.2



PRACTICE ORDERING NUMBERS BETWEEN 0 AND 1

1. Circle all of the numbers that have the same value as 0.70.

70 tenths	0.7	$\frac{7}{10}$	7 tens	$\frac{7}{100}$	0.07	70 hundredths	0.700

Order these numbers from least to greatest.

2. 0.8 0.214 0.08 0.021 0.42

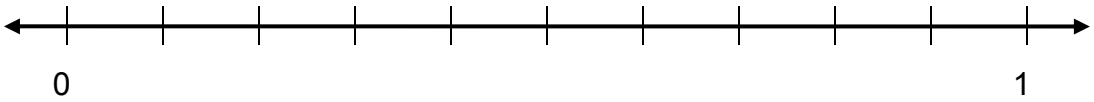
_____ < _____ < _____ < _____ < _____

3. 0.19 0.019 0.91 0.901 0.109

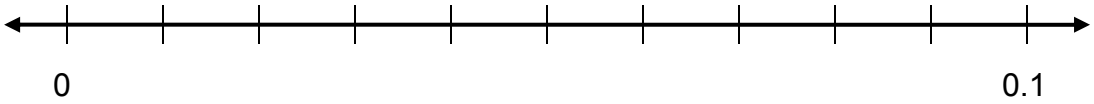
_____ < _____ < _____ < _____ < _____

Label the number lines below using the scales provided. Then write letters above the number lines to estimate the placement of the given numbers.

4. (A) 0.11 (B) 0.89 (C) 0.40 (D) 0.65 (E) 0.56

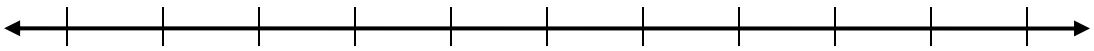


5. (F) 0.015 (G) 0.021 (H) 0.079 (J) 0.044 (K) 0.089

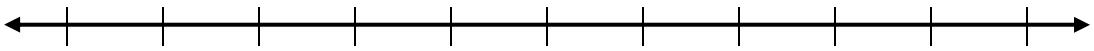


Create scales on the number line below so that the given numbers will fit. Then write letters above the number lines to estimate the placement of the given numbers.

6. (L) 0.21 (M) 0.45 (N) 0.78 (P) 0.80 (Q) 0.08



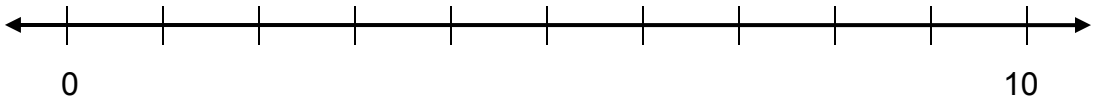
7. (R) 0.115 (T) 0.129 (U) 0.160 (V) 0.100 (W) 0.200



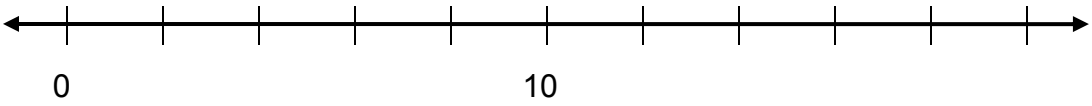
ORDERING NUMBERS ON A NUMBER LINE

Label the number lines below using the scales provided. Then write letters above the number lines to estimate the placement of the given numbers.

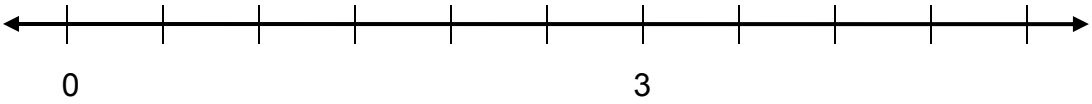
1. (A) 1.05 (B) 1.50 (C) 3.9 (D) 9.3 (E) 0.56



2. (F) 10.015 (G) 3.4 (H) 12.75 (J) 1.1 (K) 15.9

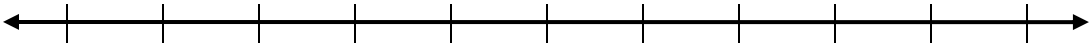


3. (L) 2.25 (M) 4.025 (N) 3.5 (O) 0.05 (P) 0.9

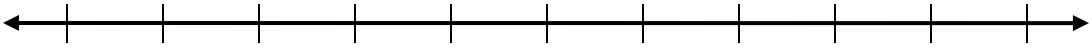


Create scales on the number line below so that the given numbers will fit. Then write letters above the number lines to estimate the placement of the given numbers.

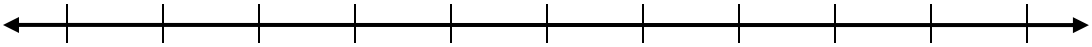
4. (Q) 0.09 (R) 0.9 (S) 0.99 (T) 0.05 (U) 0.50



5. (V) 0.105 (W) 0.150 (X) 0.100 (Y) 0.199 (Z) 0.19



6. (F) 0.5 (G) 0.05 (H) 5.55 (J) 15.75 (K) 17.95



ORDER IT! AGAIN

Play this game with a partner.

You Will Need:

- 2 or more players
- 32 or more Fraction Cards and Decimal Cards

The object of this game is to get five numbers in a row, in order, from least value to greatest value.

Once a card is placed on the table face up, it may not be moved to another location. However, a new card may be placed on top of it.

- Shuffle all the cards and place the cards face-down in a pile.
- To begin, put 5 cards face-up in the center, in the order they are drawn.
- The first player draws a card from the pile and places it on top of one of the existing face up cards. If all of the cards are now in order from least to greatest, then the player wins. If not, then play continues.
- The next player draws a card from the pile and places it on top of one of the existing face-up cards. If all the cards are now in order from least to greatest, then the player wins. If not, then play continues until all five cards are in order from least to greatest.

In order to win, a player must convince his or her opponent with a reasonable argument that the cards are in order.

1. Play two rounds of the Order It! Record one of the ordered card sequences here.

_____ _____ _____ _____ _____

2. Explain why the numbers are in order.

FRACTION, DECIMAL, AND PERCENT GARDENS

Summary	Goals
We will use an area model to explore fraction, decimal, and percent concepts.	• Rename fractions as decimals and percents. • Know that percent means parts per hundred.

Warmup

Zachary, Alexandra, and Lily have the **same size** gardens.

Zachary's Garden Alexandra's Garden Lily's Garden

1. Whose garden has the greatest area?

Zachary planted one-half of his garden. Alexandra planted three-fourths of her garden. Lily planted three-eighths of her garden.

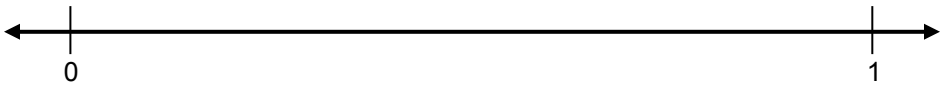
2. Shade in the planted areas of their gardens.

3. Use numbers to write the planted areas of each garden as a fraction.

4. Whose garden has the greatest planted area?

5. Whose garden has the least planted area?

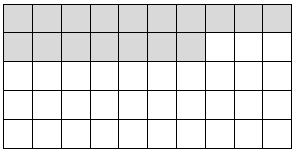
6. Estimate the correct location of the fractions on the number line below. Explain how you know the correct order.

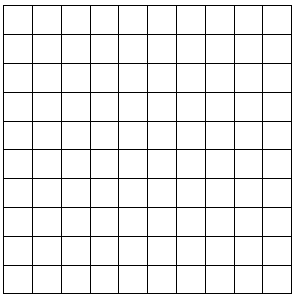


GARDENS 1

For each problem, the shaded part in figure A is given as a fraction. Shade figure B so that the same fractional part is shaded.

1.

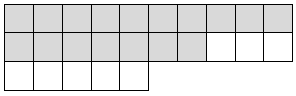
A 

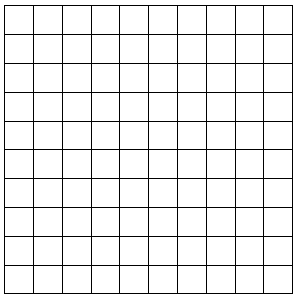
B 

$\frac{17}{50} = \frac{\quad}{100} = \underline{\quad}\% = \underline{\quad}$

fraction percent decimal

2.

A 

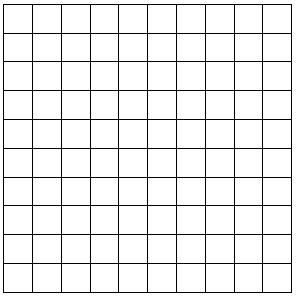
B 

$\frac{17}{25} = \frac{\quad}{100} = \underline{\quad}\% = \underline{\quad}$

fraction percent decimal

3.

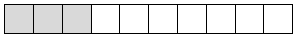
A 

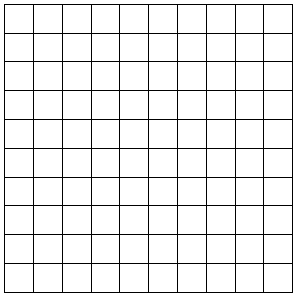
B 

$\frac{3}{5} = \frac{\quad}{100} = \underline{\quad}\% = \underline{\quad}$

fraction percent decimal

4.

A 

B 

$\frac{3}{10} = \frac{\quad}{100} = \underline{\quad}\% = \underline{\quad}$

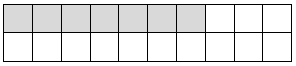
fraction percent decimal

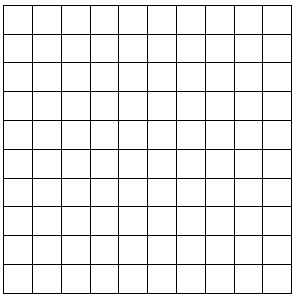
5. Which of the fractions above are greater than $\frac{1}{2}$? Explain.

GARDENS 2

For each problem, the shaded part in figure A is given as a fraction. Shade figure B so that the same fractional part is shaded.

1.

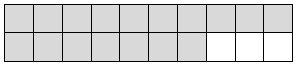
A 

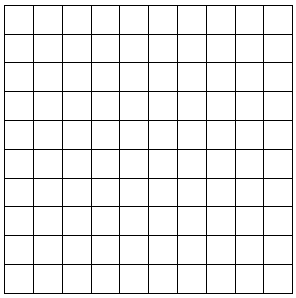
B 

$\frac{7}{20} = \frac{\quad}{100} = \_\_\_\_\_\% = \_\_\_\_\_$

fraction percent decimal

2.

A 

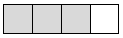
B 

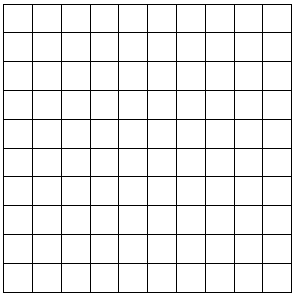
$\frac{17}{20} = \frac{\quad}{100} = \_\_\_\_\_\% = \_\_\_\_\_$

fraction percent decimal

3. Which fraction is greater: $\frac{7}{20}$ or $\frac{17}{20}$? Explain.

4.

A 

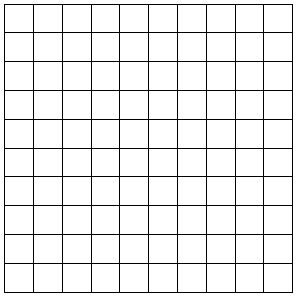
B 

$\frac{3}{4} = \frac{\quad}{100} = \_\_\_\_\_\% = \_\_\_\_\_$

fraction percent decimal

5.

A 

B 

$\frac{4}{5} = \frac{\quad}{100} = \_\_\_\_\_\% = \_\_\_\_\_$

fraction percent decimal

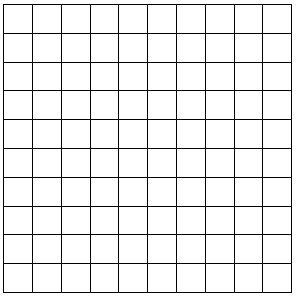
6. Which fraction is greater: $\frac{3}{4}$ or $\frac{4}{5}$? Explain.

GARDENS 3

For each problem, the shaded part in figure A is given as a fraction. Shade figure B so that the same fractional part is shaded.

1.

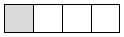
A 

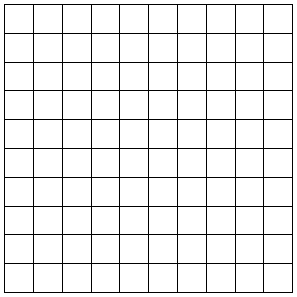
B 

$\frac{1}{2} = \frac{\quad}{100} = \_\_\_\_\_\% = \_\_\_\_\_$

fraction percent decimal

2.

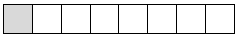
A 

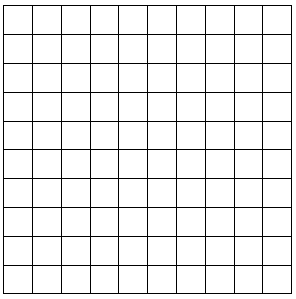
B 

$\frac{1}{4} = \frac{\quad}{100} = \_\_\_\_\_\% = \_\_\_\_\_$

fraction percent decimal

3.

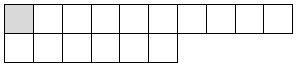
A 

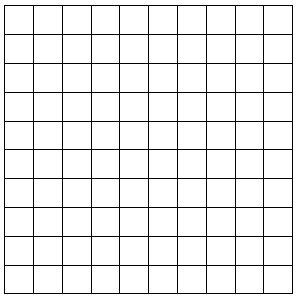
B 

$\frac{1}{8}$ *is about* $\frac{\quad}{100} = \_\_\_\_\_\% = \_\_\_\_\_$

fraction percent decimal

4.

A 

B 

$\frac{1}{16}$ *is about* $\frac{\quad}{100} = \_\_\_\_\_\% = \_\_\_\_\_$

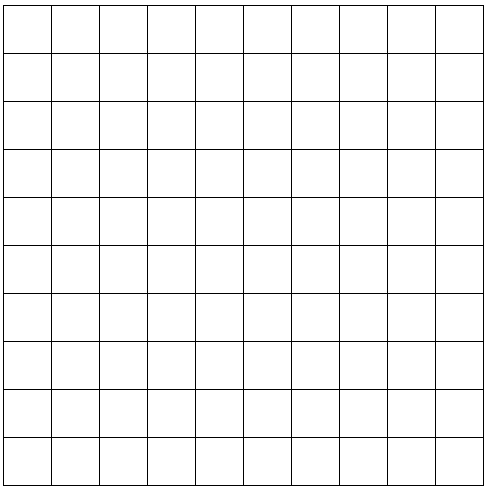
fraction percent decimal

5. Order the fractions above from least to greatest. Explain.

STRAWBERRY GARDENS

Judy and Jane planted strawberries in their gardens. Judy planted $\frac{1}{15}$ of her garden. Jane planted $\frac{7}{10}$ of her garden. Shade the planted part of each garden on the hundred-square grid.

1. Judy's Garden

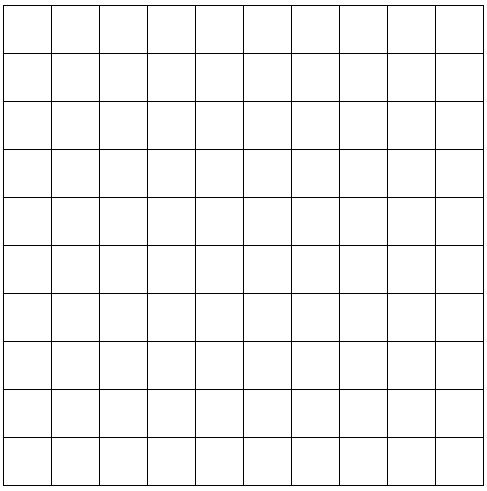


a. How many squares did you shade?

b. The shaded part is what fraction of the whole square?

c. Write the fraction as a decimal and as a percent.

2. Jane's Garden



a. How many squares did you shade?

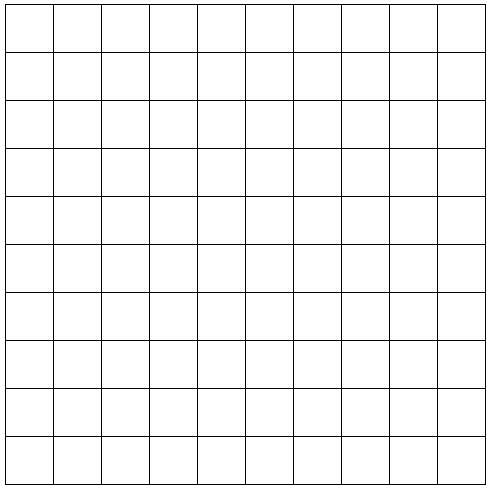
b. The shaded part is what fraction of the whole square?

c. Write the fraction as a decimal and as a percent.

PUMPKIN PATCHES

Eden and Alan planted pumpkin patches. Eden planted $\frac{2}{2}$ of her patch. Alan planted $\frac{3}{8}$ of his patch. Shade the planted part of each pumpkin patch on the hundred-square grids.

1. Eden's Pumpkin Patch

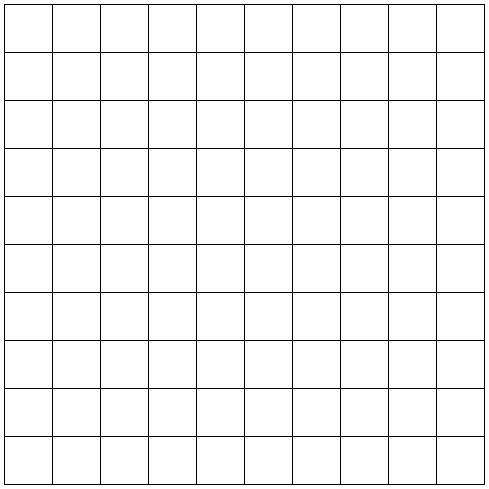


a. How many squares did you shade?

b. The shaded part is what fraction of the whole square?

c. Write the fraction as a decimal and as a percent.

2. Alan's Pumpkin Patch



a. How many squares did you shade?

b. The shaded part is what fraction of the whole square?

c. Write the fraction as a decimal and as a percent.

SKILL BUILDERS, VOCABULARY, AND REVIEW

SKILL BUILDER 1

1. Write inequalities using the < symbol to compare the unit fractions below.

   $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{6}$, and $\frac{1}{8}$ _____ < _____ < _____ < _____ < _____

2. Write inequalities using the < symbol to compare the fractions below.

   $\frac{2}{8}$, $\frac{2}{4}$, $\frac{2}{6}$, and $\frac{2}{2}$ _____ < _____ < _____ < _____

3. Estimate the location of each number on the number line.

   0 1 $\frac{3}{5}$ $\frac{3}{7}$ $\frac{3}{9}$ $\frac{1}{6}$ $\frac{15}{20}$ $\frac{18}{19}$

4. Explain how you located the fractions $\frac{15}{20}$ and $\frac{18}{19}$ on your number line.

Rewrite each measurement as an improper fraction.

5. $1\frac{1}{4}$ in.	6. $1\frac{3}{8}$ in.	7. $4\frac{3}{8}$ in.

Rewrite each measurement as a mixed number.

8. $\frac{7}{2}$ in.	9. $\frac{19}{2}$ in.	10. $\frac{46}{5}$ in.

SKILL BUILDER 2

Use blank paper. Begin with any small whole number. Multiply your number by 10. Multiply the result by 12. Multiply that result by 54. Multiply that result by 56. (You should have a **big number** now!)

1. I began with the number _____. After multiplying, my **big number** is _____.

2. Start with your **big number**. Divide it by 12. Divide that result by 21. Divide that result by 32. Divide that result by 45.

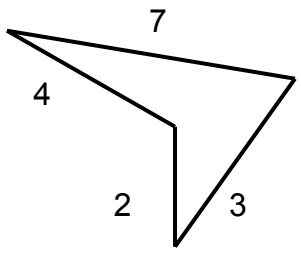
   After dividing I got _____.

3. Start with your same **big number** from problem 1. Divide it by 6. Divide that result by 20. Divide that result by 42. Divide that result by 72.

   After dividing I got _____.

4. Did you get the same results for problems 2 and 3? Explain why you think this happened.

5. Find the perimeter of the figure to the right.



6. What is the perimeter of a rectangle with a width of 5 cm and a length of 9 cm?

SKILL BUILDER 3

1. List all the factors of 42. _____

2. List all the factors of 28. _____

3. In problems 1 and 2, circle all the factors that 42 and 28 have in common.
   The greatest factor that 42 and 28 have in common is _____.

4. Describe in your own words why the number you wrote for problem 3 is the greatest common factor (GCF) of 42 and 28.

5. Use the process described above to find the GCF of 66 and 110.

6. List the first ten multiples of 8. _____

7. List the first ten multiples of 6. _____

8. In problems 6, and 7, circle all the multiples that 8 and 6 have in common.
   The least multiple that 8 and 6 have in common is _____.

9. Describe in your own words why the number you wrote for problem 8 is the least common multiple (LCM) of 8 and 6.

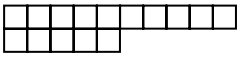
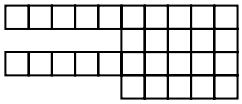
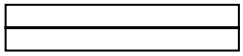
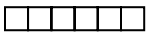
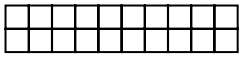
10. Use the process described above to find the LCM of 8 and 12.

11. Use ANY process to find the GCF and the LCM of 18 and 24.

SKILL BUILDER 4

Evaluate each expression.	List the operations in order from first to last.
1. $\frac{12 - 6}{4 + 2}$	
2. $4 - 12 \div 3 + 1 \bullet 3$	

Any fraction whose denominator is a power of 10 can be written as a decimal.
Write each pictorial representation using words, in fraction form, and in decimal form. Assume the area of the big square is equal to 1.

	Diagrams	Words	Fraction	Decimal
3.				
4.				
5.				
6.				
7.				

8. Problem # _____ and problem #_____ represent equivalent fractions. Write these equivalents as fractions and decimals.

_____ = _____ = _____ = _____
fraction fraction decimal decimal

SKILL BUILDER 5

1. Write 310.567 using words.

The standard form for a decimal is given. Write each number in three different expanded forms.

	Expanded Form #1	Expanded Form #2	Expanded Form #3
2.	24.65	24.65	24.65
3.	154.06	154.06	154.06
4.	0.904	0.904	0.904

For problems 5-7, write each expanded form number in its standard form.

5. 80 + 0.07 + 0.005

6. 100 + 7 + 0.08

7. 0.006 + 20 + 0.5

8. Shantrelle incorrectly thinks that $0.32 < 0.164$ because $32 < 164$. Write an explanation that could help Shantrelle understand her mistake.

SKILL BUILDER 6

1. Circle all of the numbers that have the same value as 0.7.

$\frac{7}{10}$	7 tens	70 hundredths	$\frac{70}{100}$	0.07

Order these numbers from least to greatest.

2. 0.360 0.56 0.9 0.222 0.09999

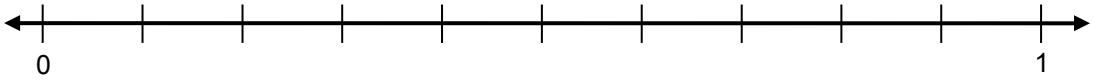
_____ < _____ < _____ < _____ < _____

3. 0.7 0.007 0.07 0.77 0.7077

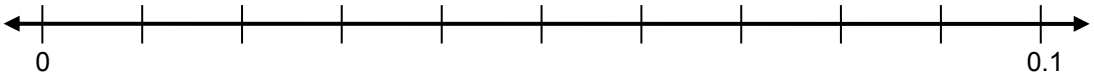
_____ < _____ < _____ < _____ < _____

Label the number lines below using the scales provided. Then write letters above the number lines to estimate the placement of the given numbers.

4. (A) 0.41 (B) 0.75 (C) 0.33 (D) 0.799 (E) 0.11

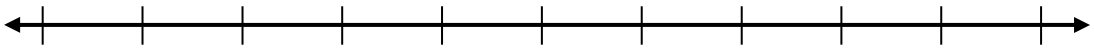


5. (F) 0.015 (G) 0.021 (H) 0.049 (J) 0.0909 (K) 0.0999



6. Create scales on the number line below so that the given numbers will fit. Then write letters above the number line to estimate the placement of the given numbers.

(L) 1.5 (M) 1.1 (N) 1.9 (P) 1.05 (Q) 1.75 (R) 1.32

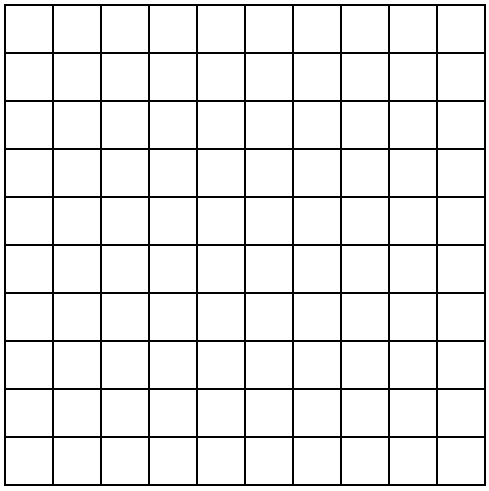


SKILL BUILDER 7

Jamal and David planted flowers in their gardens. Jamal planted $\frac{3}{5}$ of his garden. David planted $\frac{3}{4}$ of his garden.

Shade the planted part of each garden on the hundred-square grid.

1. Jamal's Garden

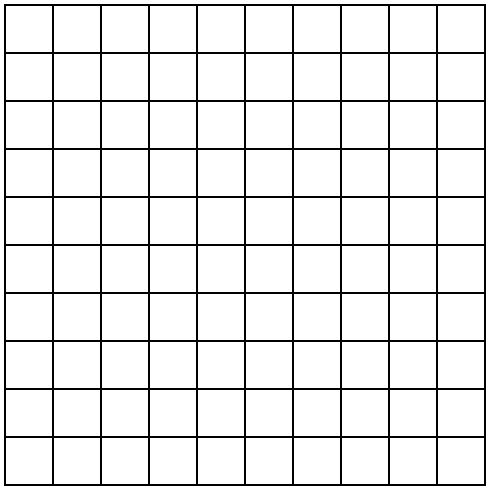


a. How many squares did you shade?

b. The shaded part is what fraction of the whole square?

c. Write the fraction as a decimal and as a percent.

2. David's Garden



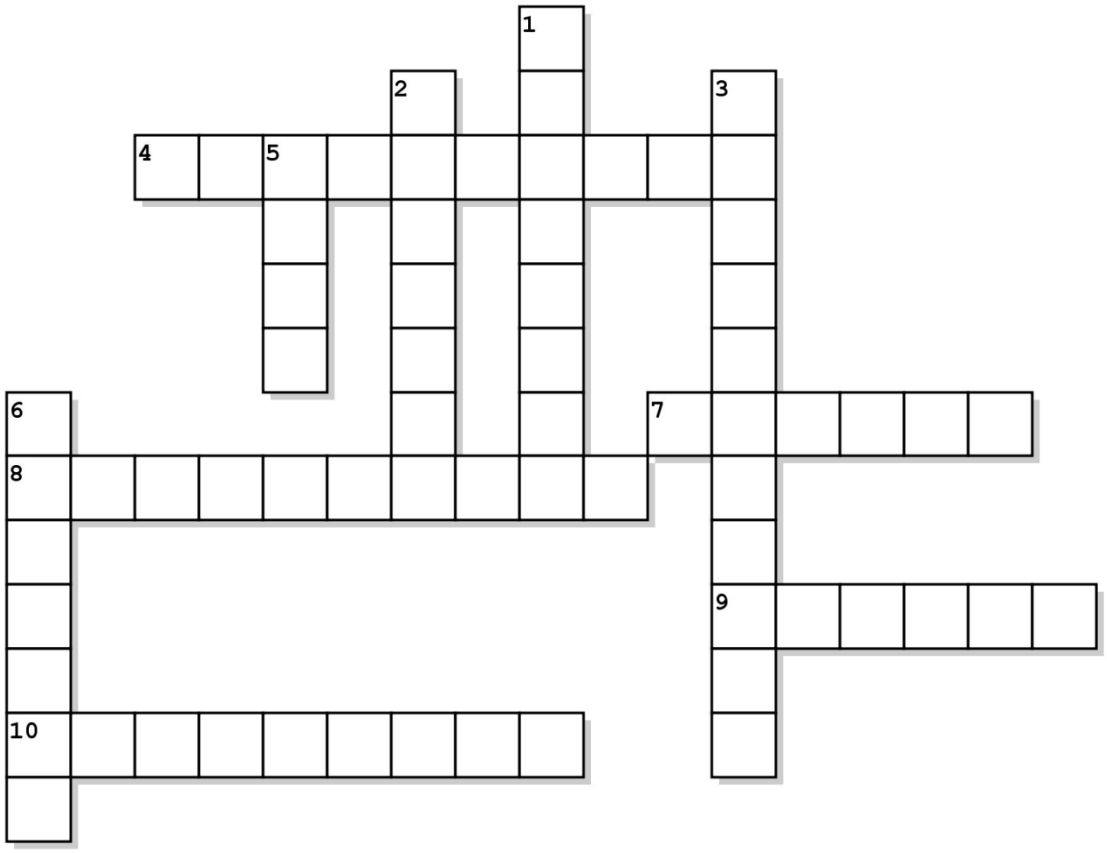
a. How many squares did you shade?

b. The shaded part is what fraction of the whole square?

c. Write the fraction as a decimal and as a percent.

3. Chris has planted $\frac{7}{10}$ of his garden. Who has planted the greatest part of their gardens, Jamal, David, or Chris? Explain your reasoning.

FOCUS ON VOCABULARY



Across

4 Positional number system where the value of a digit is determined by its location

7 Model that uses a number line

8 Two fractions that represent the same point on the number line

9 Place to right of decimal

10 6 in the number $\frac{6}{8}$

Down

1 Result of division of whole numbers

2 6.5, for example

3 8 in the number $\frac{6}{8}$

5 Model based on the size of the partitions of a figure

6 Per hundred

(For word hints, see the word bank and other vocabulary used in this packet.)

SELECTED RESPONSE

Show your work on a separate sheet of paper.

1. Choose all statements that are true for the number 302.14.

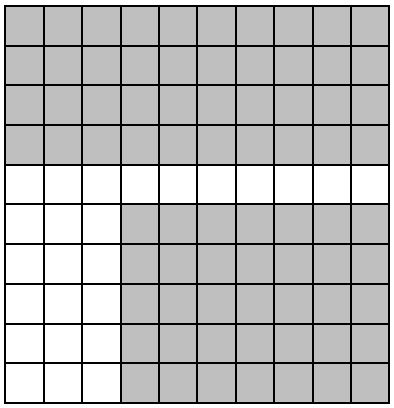
   A. The 3 is in the hundreds place.
   B. It is equivalent to 300 + 2 + 0.1 + 0.04.
   C. The 4 is in the tenths place.
   D. It is larger than 302.7.

2. Choose all of the statements that are true.

   A. $0.77 < 0.077 < 0.0777 < 7.0$
   B. $0.077 < 0.77 < 0.0777 < 7.0$
   C. $0.077 < 0.0777 < 0.77 < 7.0$
   D. $7.0 < 0.77 < 0.077 < 0.0777$

3. Choose all of the answers that illustrate the portion of the figure that is shaded to the right.

   A. 75%
   B. $\frac{75}{100}$
   C. 0.75
   D. $\frac{3}{4}$



4. Choose all of the following expressions that are equivalent to 203.14.

   A. 203 + 0.14
   B. 2 + 0 + 3 +0 .1 +0 .4
   C. 2(100) + 3(1) + 10(.1) + 4(0.01)
   D. 200 + 3 + 0.1 + 0.04

5. Choose all of the following that are between 50.60 and 50.63.

   A. 51.63 B. 50.6 C. 50.9 D. 50.66 E. 50.608

KNOWLEDGE CHECK

Show your work on a separate sheet of paper and write your answers on this page.

4.1 Fractions and Decimals

1. Write the number 0.789 as a fraction.

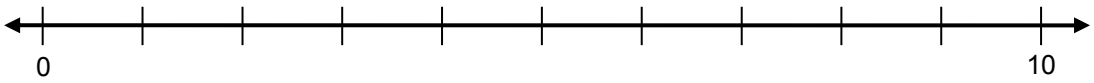
2. Write the number 900 + 7 + 0.1 + 0.009 in standard form.

3. Write the number 9(10) + 6(0.01) + 4(0.1) + 5(100) in standard form.

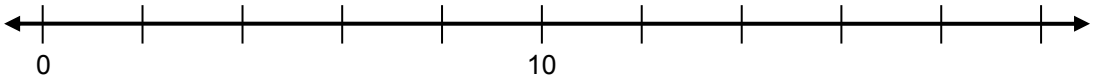
4.2 Decimal Place Value and Number Lines

Label the number lines below using the scales provided. Then write letters above the number lines to estimate the placement of the given numbers.

4. (A) 2.05 (B) 2.50 (C) 5.05 (D) 9.99 (E) 9.09

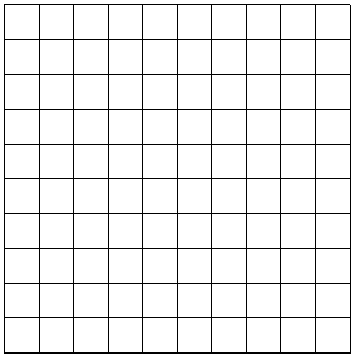


5. (F) 10.91 (G) 10.091 (H) 1.9 (J) 11.9 (K) 19.1



4.3 Fraction, Decimal, and Percent Gardens

A 

B 

6. Write a fraction to represent the portion of figure A that is shaded.

7. Shade figure B so that the same fractional part is shaded as in figure A.

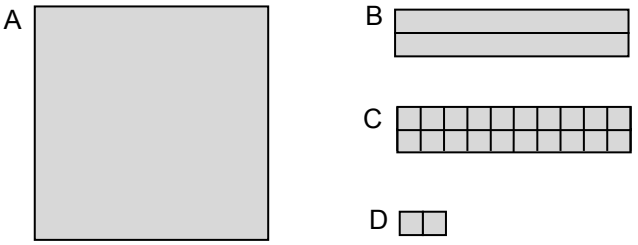
8. Write a fraction, a decimal, and a percent representing the portion of figure B that is shaded.

HOME-SCHOOL CONNECTION

Here are some questions to review with your young mathematician.

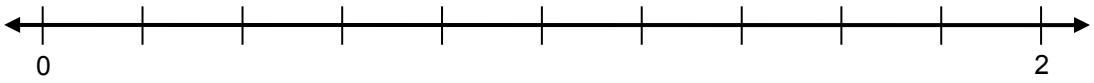
1. Fill in the decimal value for each rectangle in the table below, compared to the unit value represented by the rectangle A. Then explain if any have the same value, and why.

Rectangle	Decimal Value
A	1
B	
C	
D	



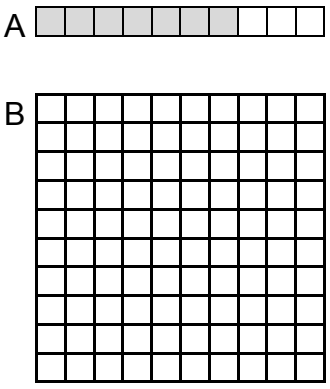
2. Label the number line below using the scales provided. Then write letters above the number line to estimate the placement of the given numbers.

A. 0.5 B. 1.3 C. 1.9 D. 0.05 E. 1.45



3. Write a fraction to represent the portion of figure A that is shaded. Shade figure B so that the same fractional part is shaded.

   Write a fraction, a decimal, and a percent representing the portion of figure B that is shaded.



Parent (or Guardian) Signature_____

COMMON CORE STATE STANDARDS – MATHEMATICS

STANDARDS FOR MATHEMATICAL CONTENT	
4.NF.C*	**Understand decimal notation for fractions, and compare decimal fractions.**
4.NF.6*	Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*
5.NBT.A*	**Understand the place value system.**
5.NBT.1*	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
5.NBT.3a*	Read, write, and compare decimals to thousandths: Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).
5.NBT.3b*	Read, write, and compare decimals to thousandths: Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
6.RP.A	**Understand ratio concepts and use ratio reasoning to solve problems.**
6.RP.3c	Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations: Find a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity); solve problems involving finding the whole, given a part and the percent.

*Review of content essential for success in 6th grade.

STANDARDS FOR MATHEMATICAL PRACTICE	
MP5	Use appropriate tools strategically.
MP7	Look for and make use of structure.
MP8	Look for and express regularity in repeated reasoning.