

## Fifth Grade Cluster 6 Assessment - Decimals

### This assessment assesses students' ability to:

- Represent and reason to multiply whole numbers by decimals and decimals by decimals
- Use models to represent multiplication of decimal numbers
- Estimate a product based on understanding of operations and the value of numbers
- Use models to divide a whole number by a decimal or a decimal by a whole number.

### NCSCOS 2017 Math Standards:

Standard	Questions
NC.5.NBT.7	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

### Fifth Grade Cluster 6 Assessment - Decimals Scoring Guide

Question	Standard	Answer
1	NC.5.NBT.7	B
2	NC.5.NBT.7	D
3	NC.5.NBT.7	A
4	NC.5.NBT.7	B
5	NC.5.NBT.7	D
6	NC.5.NBT.7	C
7	NC.5.NBT.7	C

Question	Standard	Answer
8	NC.5.NBT.7	B
9	NC.5.NBT.7	C
10	NC.5.NBT.7	D
11	NC.5.NBT.7	200
12	NC.5.NBT.7	5.4
13	NC.5.NBT.7	Rubric
14	NC.5.NBT.7	Rubric

### Open Response Rubrics:

#### Question 13 (2 points):

Student receives 1 point for each of the following bullets:

- Student shades decimal grids to show  $6 \times 0.4$ .
- Student records equation:  $6 \times 0.4 = 2.4^*$

#### Question 14 (2 points):

Student receives 1 point for each of the following bullets:

- Student shades decimal grid to show  $0.7 \times 0.4$ .
- Student records equation:  $0.7 \times 0.4 = 0.28^*$

*\*Note that an equation will include the product. An expression includes only one side of the equation.*

Student Name: \_\_\_\_\_ Date: \_\_\_\_\_

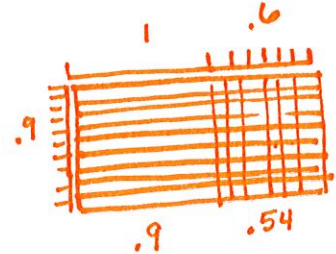
## 5th Grade Cluster 6 Assessment - Decimals

1. A zoologist purchased a rectangular field for a new petting zoo in his home town.

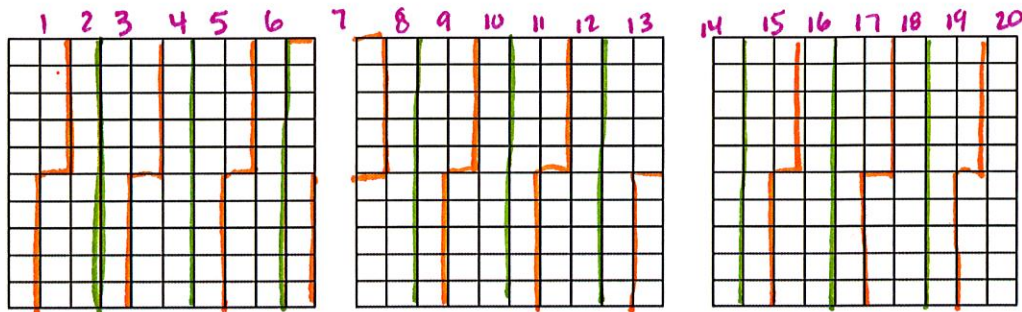
- The field is 1.6 miles long.
- The field is 0.9 miles wide.

What is the area of the field purchased for the petting zoo?

- A 0.144 square mile      **B 1.44 square miles**  
 C 14.4 square miles      D 144 square miles



2. Miquel has 3 liters of lemonade. He is selling 0.15 liter glasses of lemonade. How many glasses of lemonade will he be able to sell? Use the decimal grids below to solve the problem. Each grid represents one liter.



- A 15      B 18  
 C 19      **D 20**

3. Lucas, Jose, and Oliver worked together to wash cars to earn money over the summer.

- They earned a total of \$174.45.
- They used \$36 of the money earned to buy cleaning supplies for washing cars.
- They shared the rest of the money equally.

How much money did each boy receive?

- A \$46.15**      B \$58.03  
 C \$58.15      D \$70.15

$$174.45 - 36 = 138.45$$

3	138	40
	120	6
	18	46

3	.45	10
	.30	5
	.15	.15

**\$46.15**

4. Rylie is buying 45 boxes of juice with 3.98 pints in each box. About how many pints of juice is Rylie buying?

- A 250 pints      **B 180 pints**  
 C 150 pints      D 50 pints

↑ close to 4

$$45 \times 4 = 180$$

$$45 \times 2 = 90$$

$$\frac{90}{180}$$

5. Carlita has a jar with only quarters. She counted the money in the jar and found that there was \$9. How many quarters does Carlita have?

- A 27  
C 35

- B 32  
D 36

4 quarters in each dollar  
 $4 \times 9 = 36$

6. Tyler planted a garden that is 7.84 meters by 5.5 meters. He multiplied  $784 \times 55$  to find the area of his garden. He used estimation to decide where to place the decimal. Which of the following shows where Tyler should place the decimal?

- A 4,312 square meters  
C 43.12 square meters

- B 431.2 square meters  
D 4.312 square meters

$7 \times 5 = 35$   
closest to C

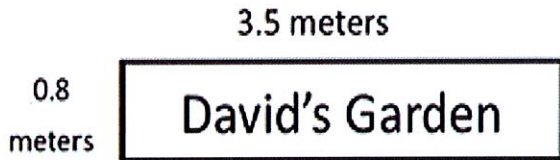
7. Brianne is planning a party for her friend. She is ordering cupcakes from her favorite bakery. She plans to order 10 peanut butter cupcakes with chocolate frosting for \$1.75 each and 18 strawberry cupcakes with vanilla frosting for \$1.50 each. How much will she spend on cupcakes for the party?

- A \$17.50  
C \$44.50

- B \$27.00  
D \$49.00

$1.75 \times 10 = 17.50$   
 $1.50 \times 18 = 27.00$   
 $18 + 9 = 27.00$   
44.50

8. David planted a small tomato garden that was 3.5 meters long and 0.8 meters wide.



$3.5 \times .8$   
 $3 \times .8 = .8 + .8 + .8 = 2.4$   
 $.5 \times .8 =$   
 $\frac{1}{2} \text{ of } .8 = .4$   
 $2.4 + .4 = 2.8$

What is the area of David's garden?

- A 2.45 square meters  
C 4.3 square meters

- B 2.8 square meters  
D 8.6 square meters

it must be smaller than 3.5

9. Bryson carried a stack of books that weighed 4 kilograms. Each of the books in the stack weighed 0.2 kilograms. How many books were in Bryson's stack?

- A 2  
C 20

- B 8  
D 80

how many .2 in 4  
there are 5, .2 in 1

$5 \times 4 = 20$

10. Kiesha bought 3 grid paper notebooks, 8 mechanical pencils, and a box of erasers at the store.

- Grid paper notebooks cost \$3.12 each.
- Mechanical pencils cost \$0.54 each.
- A box of erasers costs \$1.98.

$3.12$   
 $3.12$   
 $6.24$   
 $3.12$   
 $9.36$

8 

40	52
boxes	pencils

  
 $4.0 + .32$   
 $4.32$

How much money did Kiesha spend on school supplies?

- A \$9.32  
C \$15.56

- B \$14.66  
D \$15.66

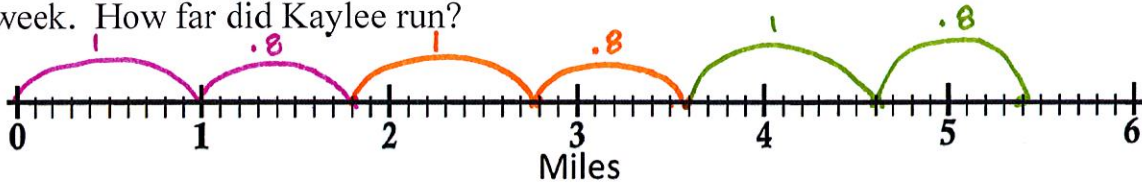
$9.36$   
 $4.32$   
 $13.68$   
 $1.98$   
 $15.66$

**Gridded Response Questions:**

11. Malia is making cookies. She has 6 pounds of chocolate chips. Each cookie takes 0.03 pounds of chocolate chips. How many cookies can she make using the chocolate chips that she has?

Answer:

12. Kaylee ran 1.8 miles on Monday, Wednesday, and Friday last week. She rested on the other days of the week. Use the number line to find the total distance Kaylee ran last week. How far did Kaylee run?

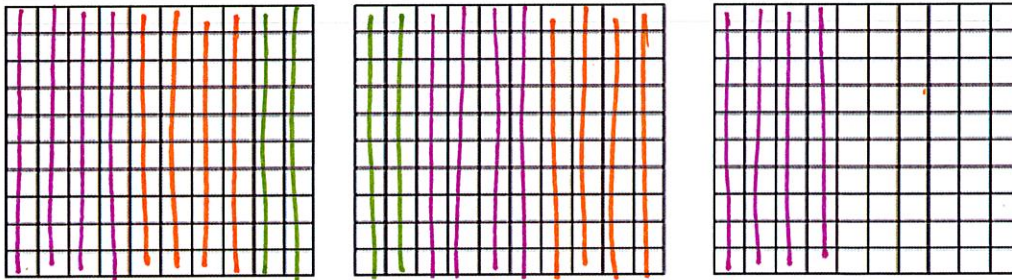


Answer:

**Open Response Questions:**

13. Martha is training for a race. She ran 6 laps around a track on Saturday. Each lap around the track is equal to 0.4 mile.

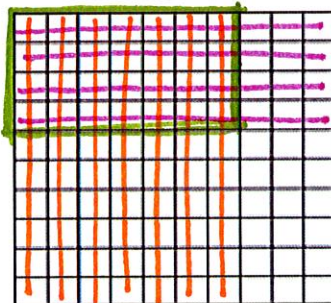
Shade the grid to model how many miles Martha ran on Saturday.



Write an equation to show how many miles Martha ran:  $0.4 \times 6 = 2.4 \text{ miles}$

14. A garden has an area of 0.7 square meters and 0.4 of the garden will be planted with tomatoes.

Shade the grid to model the section of the garden planted with tomatoes.



Write an equation to show the section of the garden planted with tomatoes:

$0.7 \times 0.4 = .28$