



**THIRD SPACE
LEARNING**

Word Problems

11 fractions and decimals
questions to develop reasoning
and problem solving skills

Grade 5

Questions

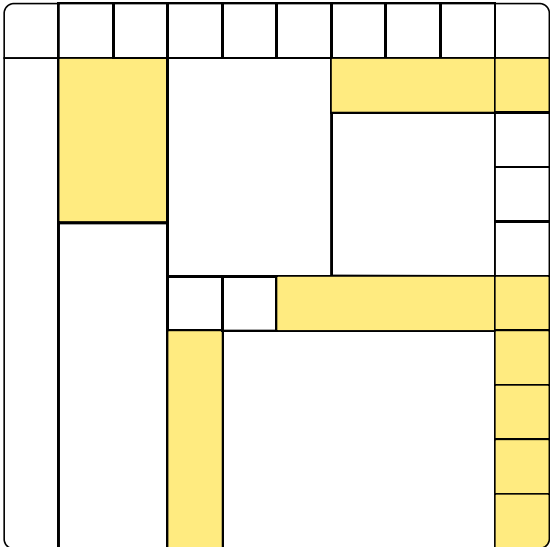
Name: Date:

- 1 Joe has rounded some decimals to the nearest whole number but Will has told him to look again at his work as they are incorrect.
Can you help Joe by rounding the decimals correctly? Explain your answers.

Number	Rounded Whole Number
74.5	74
14.4	10
27.8	27

Answer

- 2 Identify the fractional part of the hundred grid that is shaded below.
Can you express this as a fraction and as a decimal?



Answer

3 On day 1 Mark reads $\frac{1}{4}$ of his book.

On Tuesday he reads $\frac{1}{3}$ of his book.

He has 45 pages left to read.

How many total pages are there in the book?

Answer

4 Molly's goal is to run a total of 18 miles this week. In three days, she has jogged distances of 4.7 miles, 3.8 miles, and 4.2 miles. How many more miles does Molly need to jog to reach her goal?

Answer

5 Timothy has the following ingredients to mix together to make packages of trail mix:

1 $\frac{3}{4}$ pounds of peanuts

3 $\frac{1}{4}$ pounds of raisins

2 pounds of M&M's

How many $\frac{1}{4}$ pound packages can he make?

Answer

- 6 Renie says that 6 will make each of the equations true. Explain if she is correct.

a $5 \div \boxed{} = \frac{5}{6}$

b $\boxed{} \div 18 = \frac{1}{3}$

c $9 \div \boxed{} = 54$

d $3 \div \boxed{} = \frac{1}{2}$

Answer

- 7 Lucy grows vegetables in her garden. She grows the following:

54 potatoes

45 carrots

23 tomatoes

48 green beans

30 asparagus

She sells $\frac{1}{2}$ of the total to the local farm shop. She uses $\frac{1}{10}$ of what is left in her dinner. How many vegetables does Lucy have left?

Answer

- 8 Gina and three friends moved 21 pounds of sand. They all moved the same amount of sand.

a Write an equation to model this situation.

Answer

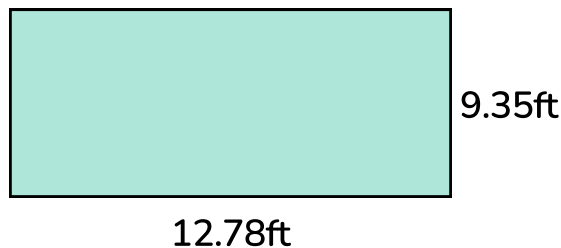
b Find how much dirt each friend moved and write the answer as a fraction.

Answer

-
- 9 While hiking in Yellowstone National Park, Ryan identified 25 species of animals and plants. If 0.4 of the species he identified were plants, how many animals did he identify?

Answer

- 10 Lola's garden is in the shape of a rectangle with the given side length and width.



- a Lola needs to buy fencing. Estimate the perimeter by rounding the length and the width to the nearest tenth.

Answer

- b Estimate the perimeter by rounding the length and width to the nearest whole number.

Answer

- c What is the difference between the estimates?

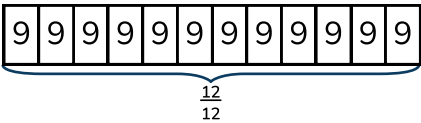
Answer

Challenge Question!

Write +, -, x or ÷ into the blank spaces to make the equation true.

5		$\frac{1}{2}$		$1\frac{1}{16}$	=	$8\frac{15}{16}$
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Answers

Question number	Question	Answers	Standard
1	Can you help Joe by rounding the decimals correctly? Explain your answers.	Joe did not apply the rounding rule of looking at the digit immediately to the right of the rounded digit. If it's a 5 or greater, round up. If the digit is less than 5, round down. 74.5 \rightarrow 75 14.4 \rightarrow 14 27.8 \rightarrow 28	5.NBT.A.4
2	Can you express this as a fraction and as a decimal?	$\frac{23}{100}$ or 0.23 is shaded	5.NBT.A.3a
3	How many total pages are there in the book?	108 pages $\frac{1}{4} + \frac{1}{3} =$ $\frac{3}{12} + \frac{4}{12} = \frac{7}{12}$ $\frac{7}{12}$ is the fractional part of the book he has read. $1 - \frac{7}{12} = \frac{5}{12}$ $\frac{5}{12}$ is how much more he needs to read. $\frac{5}{12}$ of the total amount is equal to the 45 pages. $\frac{5}{12}$ is 45 pages so each twelfth is 9 pages.  $9 \times 12 = 108$ *solved using models, strategies based on place value or properties of operations	5.NF.A.1

Question number	Question	Answers	Standard
4	How many more miles does Molly need to jog to reach her goal?	5.3 miles $4.7 + 3.8 + 4.2 = 12.7$ $18 - 12.7 = 5.3$ *solved using models, strategies based on place value or properties of operations	5.NBT.B.7
5	How many $\frac{1}{4}$ pound packages can he make?	$1\frac{3}{4} + 3\frac{1}{4} + 2 = 7$ $7 \div \frac{1}{4} =$ $\frac{7}{1} \times \frac{4}{1} = 28$ 28 bags	5.NF.A.1 5.NF.B.3
6	Renie says that 6 will make each of the equations true. Explain if she is correct.	6 doesn't make all the equations true. a) $5 \div 6 = \frac{5}{6}$ True. b) $6 \div 18 = \frac{1}{3}$ because $\frac{6}{18} = \frac{1}{3}$ True c) $9 \div 6 \neq 54$ False d) $3 \div 6 = \frac{1}{2}$ because $\frac{3}{6} = \frac{1}{2}$ True	5.NF.B.4a
7	How many vegetables does Lucy have left?	Total number of vegetables = 200 $\frac{1}{2}$ given to farm shop = 100 $\frac{1}{10}$ eaten = 10 Amount left is $100 - 10 = 90$	5.NF.B.4a
8	a) Write an equation to model this situation. b) Find how much dirt each friend moved and write the answer as a fraction.	a) Gina and three of her equals 4 people. Since they all moved the same amount of sand the equation is: $21 \div 4 = n$ OR $\frac{21}{4} = n$ b) $n = 5\frac{1}{4}$ pounds of sand	5.NF.B.7c




Question number	Question	Answers	Standard
9	If 0.4 of the species he identified were plants, how many animals did he identify?	He identified 15 animals. $0.4 \times 25 = 10$ $25 - 10 = 15$	5.NBT.B.7
10	a) Lola needs to buy fencing. Estimate the perimeter by rounding the length and the width to the nearest tenth. b) Estimate the perimeter by rounding the length and width to the nearest whole number. c) What is the difference between the estimates?	a) $9.35 \rightarrow 9.4$ $12.78 \rightarrow 12.8$ Perimeter = $9.4 + 9.4 + 12.8 + 12.8$ Perimeter = 44.4 ft b) $9.35 \rightarrow 9$ $12.78 \rightarrow 13$ Perimeter = $9 + 9 + 13 + 13$ Perimeter = 44 ft c) $44.4 - 44 = 0.4$ 0.4 ft is the difference between the two estimates	5.NBT.A.4 5.NBT.B.7
Challenge Question	Write +, -, x or \div into the blank spaces to make the equation true.	$5 \div \frac{1}{2} - 1\frac{1}{16} = 8\frac{15}{16}$	5.NF.A.1 5.NF.A.2 5.NF.B.7b

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