Master 3.11

Step-by-Step 1

Lesson 3.1, Question 11

Here is the Fibonacci sequence: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, …

Step 1 Write each fraction in the table as a decimal.

$\frac{1}{1}$	$\frac{2}{1}$	$\frac{3}{2}$	$\frac{5}{3}$	$\frac{8}{5}$	$\frac{13}{8}$

Step 2 Look at the decimals in the table.

What patterns do you see in the decimals?

Step 3 Extend the table using the Fibonacci sequence.

Continue to write consecutive terms as fractions.

$\frac{21}{13}$			

Step 4 Complete the table. Write each fraction as a decimal.

Do the patterns in the table in *Step 1* continue? Explain.

What number do the decimals appear to get closer and closer to?

Master 3.12

Step-by-Step 2

Lesson 3.2, Question 11

Step 1 Amrita sold $\frac{11}{6}$ pizzas. Write this fraction as a decimal. _____

Paul sold 1.875 pizzas.

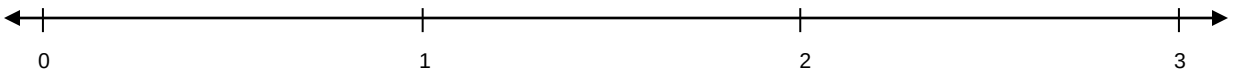
Corey sold $\frac{9}{4}$ pizzas. Write this fraction as a decimal. _____

Step 2 Write each decimal in the place-value chart.

	Ones	Tenths	Hundredths	Thousandths
Amrita				
Paul				
Corey				

Step 3 Use the number line below. Divide the line into tenths.

Place the decimal numbers on the line.



Step 4 Use the number line.

Who sold the most pizzas? _____

Who sold the fewest pizzas? _____

Step 5 Alison sold $2\frac{1}{5}$ pizzas.

Write the number of pizzas Alison sold as a decimal.

$2\frac{1}{5}$ = _____

Step 6 Place this decimal on the number line in *Step 3*.

How does the number of pizzas Alison sold compare with the numbers of pizzas sold

by the others?

_____

Step 7 Use a different method. Verify your answers in *Steps 3* and *4*.

Master 3.13

Step-by-Step 3

Lesson 3.3, Question 4

Step 1 Three recipes call for 2.75 kg, 4.4 kg, and 5.55 kg of chocolate chips.
Use front-end estimation to estimate the total amount of chocolate chips needed.

_____ kg + _____ kg + _____ kg = _____ kg

Add to find the exact amount of chocolate chips needed.

_____ kg + _____ kg + _____ kg = _____ kg

Is your answer reasonable? ____

Explain._____

_____

Step 2 The baker has 10.5 kg of chocolate chips.
Does the baker have enough chocolate chips? _____

How do you know? _____

_____

Step 3 If your answer in *Step 2* is no, subtract to find how many more kilograms of chocolate chips are needed.

_____ kg – _____ kg = _____ kg

If your answer in *Step 2* is yes, subtract to find how many kilograms of chocolate chips will be left over.

_____ kg – _____ kg = _____ kg

Step 4 What did you find out? _____

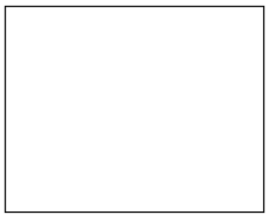
_____

Master 3.14

Step-by-Step 4

Lesson 3.4, Question 7

Step 1 Write the dimensions of the area rug on this rectangle.



Step 2 Estimate the area of the rug. _____

Step 3 Use Base Ten Blocks to model 3.4×2.7.
Sketch the blocks on grid paper.

Step 4 Use the grid paper sketch to find 3.4×2.7.

Step 5 How does your answer in *Step 4* compare with your estimate in *Step 2*?

_____

Step 6 Use long multiplication to find 34×27.

Step 7 Use your estimate in *Step 2* to place the decimal point in your answer in *Step 6*,
to get the product of 3.4×2.7. _____

Step 8 Compare your answers in *Steps 4* and *7.* Which method did you prefer? Why?

_____

_____

Step 9 What is the area of the rug? _____

Master 3.15

Step-by-Step 5

Lesson 3.5, Question 10

Step 1 Alex needs fourteen 0.8-m pieces of fabric.
Multiply: 0.8 × 14

How much fabric does Alex need in total? _____

Step 2 Alex buys 9.88 m of fabric.
Does he have enough? _____
How can you use your answer in *Step 1* to find out?

_____
_____

Step 3 Does Alex have more fabric than he needs? _____
How do you know?

_____

Step 4 Does Alex need more fabric?

_____
How much more?

_____

Step 5 Alex redesigns his patio. He needs fourteen 0.7-m pieces.
Multiply: 0.7 × 14 _____
Is the remnant enough fabric? _____ Explain.

_____

Master 3.16

Step-by-Step 6

Lesson 3.6, Question 5

$$12 \times (4.8 \div 0.3) - 3.64 \times 3.5$$

Step 1 Divide in brackets first.

_____

Step 2 Complete all the multiplication from left to right**.**

_____

Step 3 Subtract.

_____

Step 4 What is the answer? _____

Who had the correct answer? _____

Step 5 Perform the operations as they occur, from left to right.

What is the answer? _____

Which student incorrectly completed the question in this way?

_____

Step 6 Use the order of operations.

Find: $(4.8 \div 0.3) - 3.64 \times 3.5$

Multiply the result by 12. _____

What is the answer? _____

Which student incorrectly completed the question in this way?

_____

Master 3.17

Step-by-Step 7

Lesson 3.7, Question 5

Step 1 Fold a sheet of paper in half lengthwise.
Fold it in half again widthwise.
Unfold the paper. There are 4 congruent sections.
How many sections will you shade blue to represent $\frac{1}{2}$? ____
Shade the sections.

Step 2 Write 25% as a fraction in simplest form. _____
How many sections will you shade yellow? _____
Shade the section(s).

Step 3 What fraction of the page is not shaded? _____
What percent is this? _____
Divide the section into 5 equal rows.
What percent does each row represent? _____
How many rows will you shade to show 10%? _____
Shade the rows red.

Step 4 Shade the remaining rows green. How many rows are green? ____
What percent of the page is the green section? _____
How do you know?

_____

_____

Master 3.18

Step-by-Step 8

Lesson 3.8, Question 7

Step 1 What does “up to 60% off” mean? _____

_____

Step 2 Each item is to be reduced by 60%.

So, the sale price is 100% – 60% = 40% of the regular price.

Multiply each regular price by 0.4 to find the sale price.

Complete the table below.

Item	Regular Price	Sale Price
Sweaters	$49.99	
Ski Jackets	$149.99	
Scarves	$29.99	
Leather Gloves	$69.99	
Hats	$24.99	

Step 3 Compare the sale prices you calculated in *Step 2* with those on page 116 of the Student Book. Which items in the advertisement have been reduced by 60%?

_____

Step 4 Suppose all items are reduced by 60%. What changes would you make to the sale prices in the advertisement? Explain.

_____

_____