

MSP

Grade 4 Module 1

Lesson Refreshers

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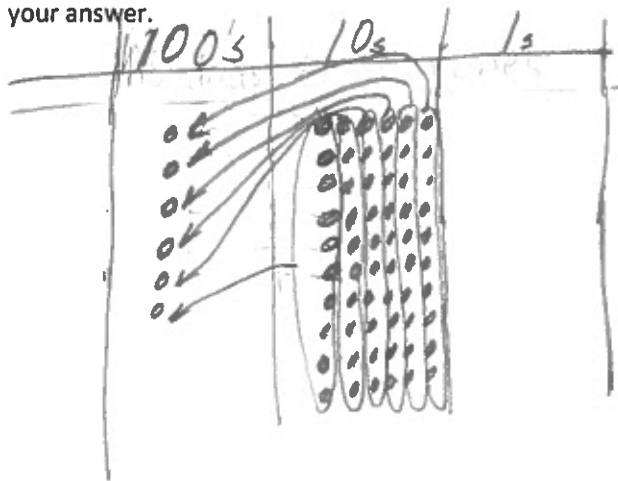
Homework Starters

2. Complete the following statements using your knowledge of place value:

- a. 10 times as many as 1 hundred is _____ hundreds or _____ thousand.
- b. 10 times as many as _____ hundreds is 60 hundreds or _____ thousands.
- c. _____ as 8 hundreds is 8 thousands.
- d. _____ hundreds is the same as 4 thousands.

Use pictures, numbers, or words to explain how you got your answer for Part (d).

3. Katrina has 60 GB of storage on her tablet. Katrina’s father has 10 times as much storage on his computer. How much storage does Katrina’s father have? Use numbers or words to explain how you got your answer.



$$60 \times 10 = 600$$

You can group 60 into 6 groups of 10. Each group of 10 tens can be bundled to make 6 hundreds.

3. Solve for each expression by writing the solution in unit form and in standard form.

Expression	Unit Form	Standard Form
$(2 \text{ tens } 1 \text{ one}) \times 10$		
$(5 \text{ hundreds } 5 \text{ tens}) \times 10$		
$(2 \text{ thousands } 7 \text{ tens}) \div 10$		
$(4 \text{ ten thousands } 8 \text{ hundreds}) \div 10$		

4. a. Emily collected \$950 selling Girl Scout cookies all day Saturday. Emily's troop collected 10 times as much as she did. How much money did Emily's troop raise?

thousands	hundreds	tens	ones
9	5		

(Note: In the original image, the 9 in the hundreds place and the 5 in the tens place are circled, with arrows pointing to the tens and ones places respectively, indicating multiplication by 10.)

$950 =$

9 hundreds +
5 tens

$950 \times 10 = 9,500$

Emily's troop raised \$9,500.

b. On Saturday, Emily made 10 times as much as on Monday. How much money did Emily collect on Monday?

thousands	hundreds	tens	ones
	9	5	

(Note: In the original image, the 9 in the hundreds place and the 5 in the tens place are circled, with arrows pointing to the tens and ones places respectively, indicating division by 10.)

$950 \div 10 = 95$

Emily collect \$ 95 on Monday.

V Barnes

Name _____

Date _____

1. In the spaces provided, write the following units in standard form. Be sure to place commas where appropriate.

a. 9 thousands 3 hundreds 4 ones 9,304

* Visually place each amount into a place value chart

b. 6 ten thousands 2 thousands 7 hundreds 8 tens 9 ones 62,789

* Starting from the right

c. 1 hundred thousand 8 thousands 9 hundreds 5 tens 3 ones 108,953

Place a comma after every 3 numbers.

2. Use digits or disks on the place value chart to write 26 thousands 13 hundreds.

Place Value Chart

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
		2	7	3	0	0

How many thousands are in the number you have written? 27,300

- * Draw 13 hundreds in the hundreds place on the Chart.
- * Group 10 hundreds and move them to the place value to the left (thousands). This leaves 3 hundreds.
- * Then draw 26 more thousands (total of 27 with the one you regrouped from the hundreds place).

* group 10 thousands and regroup them to the left into the ten thousand place → repeat this step. Finally write the number left in each place value.

3. Complete the following chart:

Standard Form	Word Form	Expanded Form
5,370	five thousand, three hundred seventy	$5000 + 300 + 70$
50,372	fifty thousand, three hundred seventy two	$50,000 + 300 + 70 + 2$
39,701	thirty-nine thousand, seven hundred one	$30,000 + 9,000 + 700 + 1$
309,017	three hundred nine thousand, seventeen	$300,000 + 9,000 + 10 + 7$
770,070	seven hundred seventy thousand, seventy	$700,000 + 70,000 + 70$

Basiers

4. Use pictures, numbers, and words to explain another way to say sixty-five hundred.

- standard form is number form.
- word form is writing out the number in all words.
- expanded form is stretching out the number to show value for each place value.
- use what is given to determine what is not given in the chart.

3. Fill in the empty boxes to complete the patterns.

a.

145,555		147,555		149,555	
---------	--	---------	--	---------	--

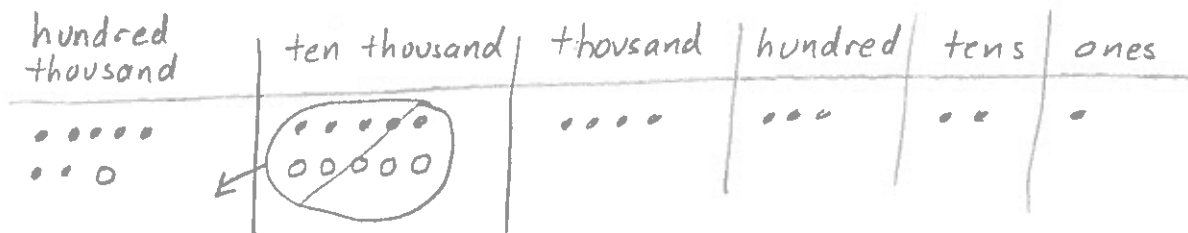
Explain in pictures, numbers, or words how you found your answers.

b.

754,321	764,321	774,321	784,321	794,321	804,321
---------	---------	---------	---------	---------	---------

Explain in pictures, numbers, or words how you found your answers.

The number increases by 10,000 each time



This diagram shows the increase from 754,321 to 804,321 by adding 10,000's.

c.

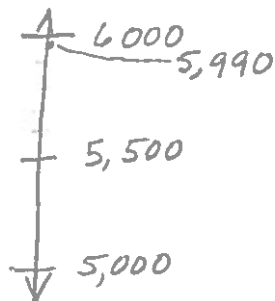
125,876	225,876		425,876		
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Explain in pictures, numbers, or words how you found your answers.

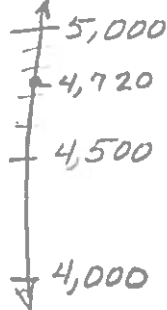
2. Steven put together 981 pieces of a puzzle. About how many pieces did he put together? Round to the nearest thousand. Use what you know about place value to explain your answer.

3. Louise’s family went on vacation to Disney World. Their vacation cost \$5,990. Sophia’s family went on vacation to Niagara Falls. Their vacation cost \$4,720. Both families budgeted about \$5,000 for their vacation. Whose family stayed closer to the budget? Round to the nearest thousand. Use what you know about place value to explain your answer.

Louise's family



Sophia's family



Sophia's family was closer to \$5,000 since \$4,720 is between \$4,500 and \$5,000, while Louise family cost \$5,990 which is between \$5,500 and \$6,000.

4. Marsha’s brother wanted help with the first question on his homework. The question asked the students to round 128,902 to the nearest thousand and then to explain the answer. Marsha’s brother thought that the answer was 128,000. Was his answer correct? How do you know? Use pictures, numbers, or words to explain.

Vicki Barnes

Name _____

Date _____

1. Round to the nearest thousand. Use the number line to model your thinking.



a. $7,621 \approx$ _____

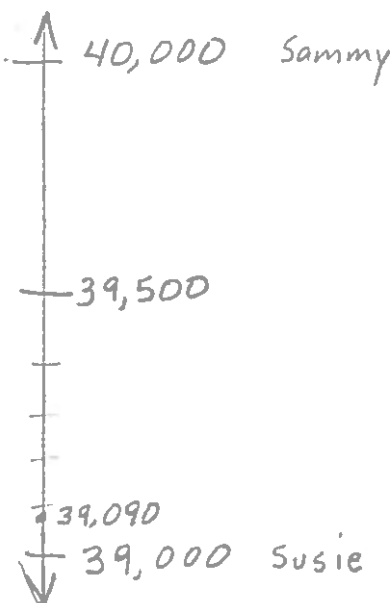


b. $12,502 \approx$ _____



c. $324,087 \approx$ _____

2. It takes 39,090 gallons of water to manufacture a new car. Sammy thinks that rounds up to about 40,000 gallons. Susie thinks it is about 39,000 gallons. Who rounded to the nearest thousand, Sammy or Susie? Use pictures, numbers, or words to explain.



Susie rounded to the nearest thousand. since 39,090 is closer to 39,000. (and is before the halfway point)

Name _____

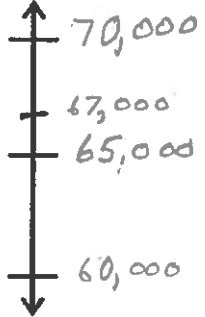
Date _____

Complete each statement by rounding the number to the given place value. Use the number line to show your work.

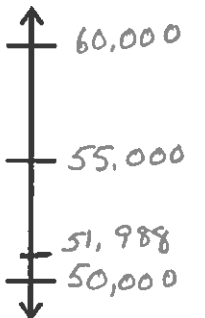
1. a. 67,000 rounded to the nearest ten thousand is 70,000.

2. a. 867,000 rounded to the nearest hundred thousand is 900,000.

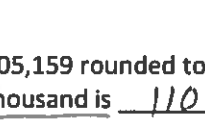
① When rounding list the smallest possible number asked by the directions at the bottom of vertical number line



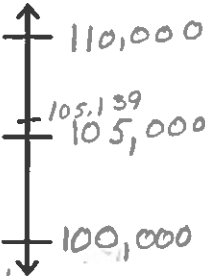
② Add one(1) to the closest place value and put it at the top of the vertical number line.



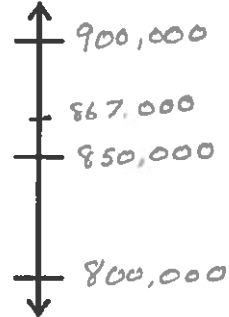
③ label the halfway point on vertical number line



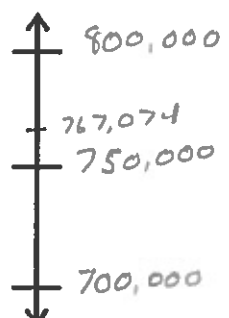
④ Roughly place the number asked on the vertical number line.



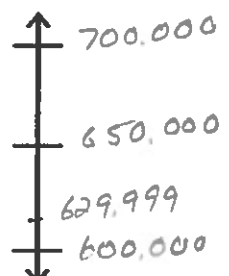
⑤ You round to bottom number if it is before the halfway point, round up if it is at halfway point



- b. 767,074 rounded to the nearest hundred thousand is 800,000.



- c. 105,159 rounded to the nearest hundred thousand is 100,000.



Lesson 8:

Round multi-digit numbers to any place using the vertical number line.



Regie is

Name _____

Date _____

1. Round to the nearest thousand.

a. $6,842 \approx$ _____

b. $2,722 \approx$ _____

c. $16,051 \approx$ _____

d. $706,421 \approx$ 706,000

e. Explain how you found your answer for Part (d).

706,421 is between 706,000 and 707,000. Halfway between those two numbers is 706,500. 706,421 is less than halfway between the numbers. It is closer to 706,000.

Use a vertical number line to help you "see" the problem.

2. Round to the nearest ten thousand.

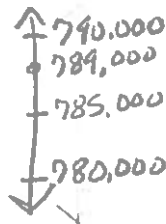
a. $88,999 \approx$ _____

b. $85,001 \approx$ _____

c. $789,091 \approx$ 790,000

d. $905,154 \approx$ _____

e. Explain why two problems have the same answer. Write another number that has the same answer when rounded to the nearest ten thousand.



3. Round to the nearest hundred thousand.

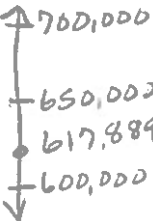
a. $89,659 \approx$ _____

b. $751,447 \approx$ _____

c. $617,889 \approx$ 600,000

d. $817,245 \approx$ _____

e. Explain why two problems have the same answer. Write another number that has the same answer when rounded to the nearest hundred thousand.



UBenton

Name _____

Date _____

1. There are 598,500 Apple employees in the United States.
 a. Round the number of employees to the given place value.

thousand: 599,000

ten thousand: 600,000

hundred thousand: 600,000

* Find the number in the place value that is being rounded (thousand, 8) then looking at the number in the place value to the right of that number determine if it stays a 8 or increases to a 9 thousand. (*5 & up the number increases). All place values to the right of that number become zero.

- b. Explain why two of your answers are the same.

* Numbers to the left of that number stay the same unless a 9 is rounded up then the place value to the left increases by 1.

The right of that number become zero.

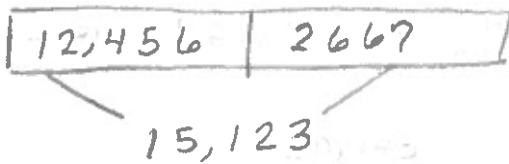
2. A company developed a student survey so that students could share their thoughts about school. In 2011, 78,234 students across the United States were administered the survey. In 2012, the company planned to administer the survey to 10 times as many students as were surveyed in 2011. About how many surveys should the company have printed in 2012? Explain how you found your answer.

D. Calabrese

Draw a tape diagram to represent each problem. Use numbers to solve, and write your answer as a statement.

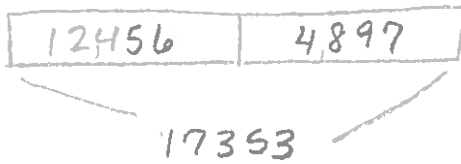
2. At the zoo, Brooke learned that one of the rhinos weighs 4,897 pounds, one of the giraffes weighs 2,667 pounds, one of the African elephants weighs 12,456 pounds, and one of the Komodo dragons weighs 123 pounds.

- a. What is the combined weight of the zoo's African elephant and the giraffe?



The combined weight of the zoo's African elephant and the giraffe is 15,123 pounds.

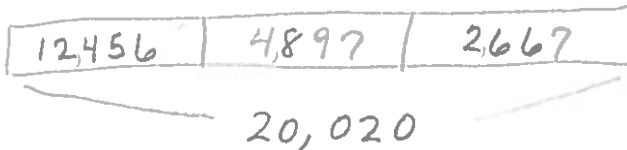
- b. What is the combined weight of the zoo's African elephant and the rhino?



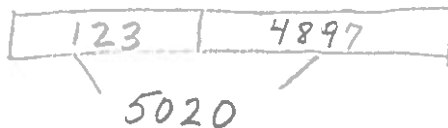
$$\begin{array}{r} 2667 \\ + 12456 \\ \hline 15123 \end{array}$$

Note: Similar statements, as the one above can be used for 2b, 2c, and 2d.

- c. What is the combined weight of the zoo's African elephant, the rhino, and the giraffe?



- d. What is the combined weight of the zoo's Komodo dragon and the rhino?



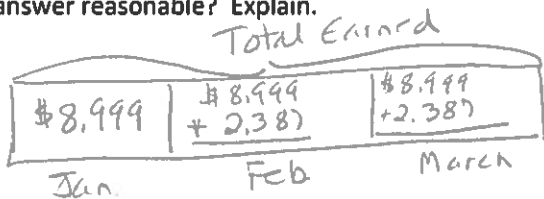
Barnes

Name _____

Date _____

Model the problem with a tape diagram. Solve and write your answer as a statement.

In January, Scott earned \$8,999. In February, he earned \$2,387 more than in January. In March, Scott earned the same amount as in February. How much did Scott earn altogether during those three months? Is your answer reasonable? Explain.



- The tape diagram is a picture of the problem.

$$\begin{array}{r} \$8,999 \\ + 2,387 \\ \hline \$11,386 \end{array}$$

- In both February and March he earned \$11,386

$$\begin{array}{r} \$8,999 \\ + 11,386 \\ \hline \$31,771 \end{array}$$

- Add to determine how much he earned altogether in those three months.

Scott earned \$31,771 altogether during January, February, and March

- Write the answer as a statement.

- Determine if your answer is reasonable by using rounded numbers. Round to the highest place value unless told otherwise.

$$\begin{array}{l} \$8,999 \approx 9,000 \\ 11,386 \approx 11,000 \\ 11,386 \approx 11,000 \end{array}$$

$$\begin{array}{r} \$9,000 \\ + 11,000 \\ \hline \$31,000 \end{array}$$

I rounded each number to the nearest thousand. My rounded answer of \$31,000 is just a little less than my actual answer of \$31,771, so my answer is reasonable.

- Explain in words, comparing your rounded answer to your actual answer.

J. Benton

5. The population of a city is 538,381. In that population, 148,170 are children.
 a. How many adults live in the city?

538,381
x 148,170

$$\begin{array}{r}
 413 \\
 538,381 \\
 - 148,170 \\
 \hline
 390,211
 \end{array}$$

$$\begin{array}{r}
 390,211 \\
 + 148,170 \\
 \hline
 538,381 \checkmark
 \end{array}$$

390,211 adults live in the city.

- b. 186,101 of the adults are males. How many adults are female?

① Read the word problem and circle the numbers you are going to use.

② At bottom rewrite the question using a sentence leaving a blank for the answer.

③ Create the tape diagram:

a) You have the whole population. That's a large rectangle.

b) below the large rectangle you have the same sized rectangle divided into 2 parts one for the adults / one for the children.

④ Realizing I am missing a part of the whole I have to subtract the two numbers $538,381 - 148,170$.

⑤ Check your answer by adding your answer to smaller number to get large number.

⑥ Record answer on the blank in your sentence.

Name _____

Date _____

Use the standard algorithm to solve the following subtraction problems.

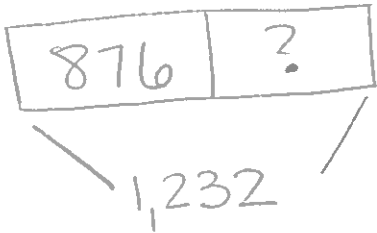
1.
$$\begin{array}{r} 19,350 \\ - 5,761 \\ \hline \end{array}$$

2. $32,010 - 2,546$

Draw a tape diagram to represent the following problem. Use numbers to solve, and write your answer as a statement. Check your answer.

3. A doughnut shop sold 1,232 doughnuts in one day. If they sold 876 doughnuts in the morning, how many doughnuts were sold during the rest of the day?

Tape diagram



$$\begin{array}{r} 0 \quad \overset{11}{\cancel{1}} \quad \overset{12}{\cancel{2}} \quad \overset{12}{\cancel{2}} \\ \times \quad \cancel{2} \quad \cancel{3} \quad \cancel{2} \\ - \quad 876 \\ \hline 356 \end{array}$$

The doughnut shop sold _____ during the rest of the day.

* You can NOT subtract ^{ones} 6 from ^{ones} 2, therefore you need to decompose; by borrowing 1 ten from the tens place $3 - 1 = 2$; $2 + 1 \text{ ten} = 12$ (10)
 $12 - 6 = 6$

* You can NOT subtract 7 tens from 2 tens; therefore you need to decompose 1 hundred = 10 tens. $2 - 1 = 1$ hundred; $2 \text{ tens} + 10 \text{ tens} = 12 \text{ tens}$; $12 \text{ tens} - 7 \text{ tens} = 5 \text{ tens}$
 (20 + 100 = 120)

* You can NOT subtract 8 hundreds from 1 hundred, therefore you need to decompose 1 thousand = 10 hundreds; $1 \text{ thousand} - 1 \text{ thousand} = 0$; $1 \text{ hundred} + 10 \text{ hundreds} = 11 \text{ hundreds}$

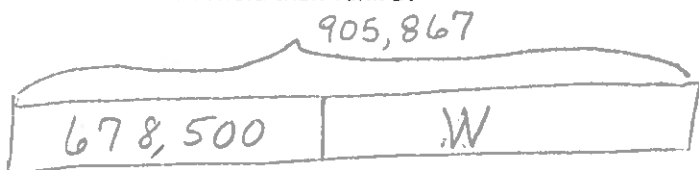
D. Calabrese

* 11 hundreds - 8 hundreds = 3 hundreds; answer 356!

Use tape diagrams and the standard algorithm to solve the problems below. Check your answers.

2. David is flying from Hong Kong to Buenos Aires. The total flight distance is 11,472 miles. If the plane has 7,793 miles left to travel, how far has it already traveled?

3. Tank A holds 678,500 gallons of water. Tank B holds 905,867 gallons of water. How much less water does Tank A hold than Tank B?



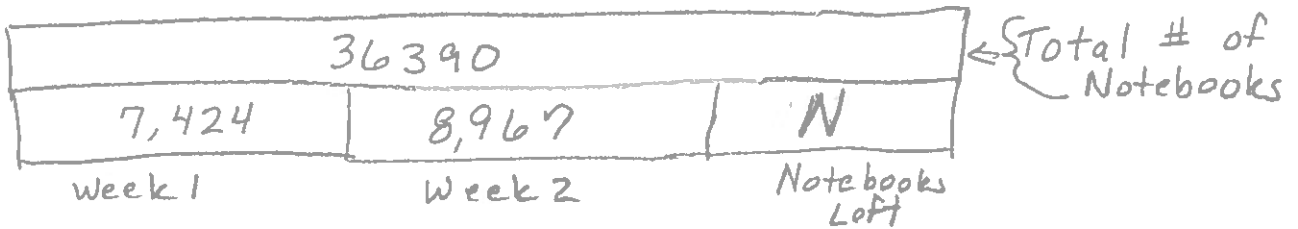
$$\begin{array}{r}
 8 \ 9 \\
 905,867 \\
 - 678,500 \\
 \hline
 W = 227,367 \text{ gallons}
 \end{array}$$

We are comparing Tank A to Tank B. Tank B holds the greater amount of water. The difference between the two tanks is 227,367 gallons, which is how much less water Tank A can hold than Tank B.

4. Mark had \$25,081 in his bank account on Thursday. On Friday, he added his paycheck to the bank account, and he then had \$26,010 in the account. What was the amount of Mark's paycheck?

V BARNES

3. A local store was having a two-week Back to School sale. They started the sale with 36,390 notebooks. During the first week of the sale, 7,424 notebooks were sold. During the second week of the sale, 8,967 notebooks were sold. How many notebooks were left at the end of the two weeks? Is your answer reasonable?



$$36390 = 7424 + 8967 + N$$

There are several ways to solve this equation.

You could:

$$\begin{array}{r} 2518 \\ 36390 \\ - 7424 \\ \hline 28966 \\ - 8967 \\ \hline 19999 \end{array} \text{ Notebooks Left}$$

OR

$$\begin{array}{r} 7424 \\ + 8967 \\ \hline 16391 \end{array}$$

$$\begin{array}{r} 25128 \\ 36390 \\ - 16391 \\ \hline 19999 \end{array} \text{ Notebooks Left}$$

Be careful when you are subtracting and decomposing numbers. Take your time.

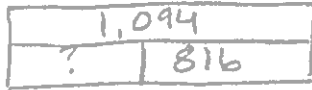
19,999 is reasonable because if I round the numbers to the nearest thousand $\Rightarrow 36000 = 7000 + 9000 + N$
 $36000 = 16,000 + N$
 $20,000 = N$ which is close to 19,999.

Name _____

Date _____

Draw a tape diagram to represent each problem. Use numbers to solve, and write your answer as a statement.

1. Gavin has 1,094 toy building blocks. Avery only has 816 toy building blocks. How many more building blocks does Gavin have?



$$\begin{array}{r}
 \text{solve} \\
 01094 \\
 1,094 \\
 - 816 \\
 \hline
 278
 \end{array}$$

$$\begin{array}{r}
 \text{check} \\
 278 \\
 + 816 \\
 \hline
 1,094
 \end{array}$$

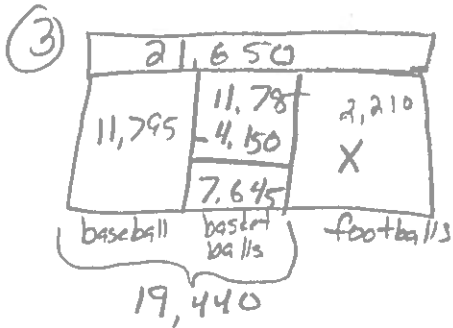
Gavin has 278 more building blocks than Avery.

- "How many more" tells us we will need to subtract.
- The tape diagram is a picture of the problem.
- Solve the problem and check
- Turn the question into your statement.

2. Container B holds 2,391 liters of water. Together, Container A and Container B hold 11,875 liters of water. How many more liters of water does Container A hold than Container B?

JBenton

3. A store sold a total of 21,650 balls. It sold 11,795 baseballs. It sold 4,150 fewer basketballs than baseballs. The rest of the balls sold were footballs. How many footballs did the store sell?



④

$$\begin{array}{r} 11,795 \\ - 4,150 \\ \hline 7,645 \end{array}$$

⑤

$$\begin{array}{r} 11,795 \\ + 7,645 \\ \hline 19,440 \end{array}$$

⑥

$$\begin{array}{r} 21,650 \\ - 19,440 \\ \hline 2,210 \end{array}$$

⑦

$$\begin{array}{r} 19,440 \\ + 2,210 \\ \hline 21,650 \end{array}$$

⑧ The store sold 2,210 footballs.

① Read and circle the numbers.

② Rewrite the question leaving a blank for the answer.

③ create the tape diagram:

① 21,650 is one whole rectangle as it is all balls sold.

② under it construct a rectangle the same size and break it in three parts for each type of ball and label them.

③ place 11,795 in baseballs

④ list 11,795 - 4,150 in basketballs

⑤ place x in footballs

④ Solve 11,795 - 4,150 place answer in basketballs

⑤ add the total of baseballs / basketballs.

⑥ use the total balls and subtract the baseballs / basketballs to find footballs.

⑦ check answer

⑧ place answer in sentence

* Step 1 is adding because the total of all 3 types of trees is 12,115 but finding the total of Redwood & Cypress will

help us narrow down how many Dogwood trees there are.

* Then step 2 is taking the total of all 3 types (12,115 - 10,143)

and subtracting the total of 2 types gives the amount of Dogwood trees.
 Name _____ Date _____
 Using the diagrams below, create your own word problem. Solve for the value of the variable.

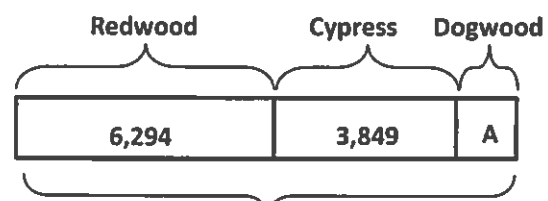
1. At the local botanical gardens, there are 6,294

Redwoods and 3,849 Cypress trees.

There are a total of 12,115 Redwood,

Cypress, and Dogwood trees.

How many Dogwood trees
are there at the
botanical gardens?



step 1

$$\begin{array}{r} 6,294 \\ + 3,849 \\ \hline 10,143 \end{array}$$

step 2

$$\begin{array}{r} 12,115 \\ - 10,143 \\ \hline 1,972 \end{array}$$

There are 1,972 Dogwood trees at the botanical gardens.
 D. Calabrese

2. There are 65,302 _____

There are 37,436 fewer _____

How many _____

_____?

