PROBLEM SOLVED

MAKING SENSE OF MATHEMATICS

Directions:
- Solve each of the following subtraction problems with a model. You may use pennies, dimes, and dollars to represent ones, tens, and hundreds or you may print and cut out paper base ten blocks.
- Go through the steps you used to solve the problem with a model again. This time record each step with paper and pencil.

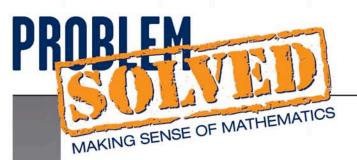Note: ■ represents 100 | represents 10   • represents one

1. LaRae had 174 baseball cards. When he sorted them he found he had 45 duplicates, so he gave the duplicates to his little sister. How many baseball cards does he have left in his collection?

Actions	Base 10 Blocks	Paper & Pencil Procedure
Represent 174.	■ |||| ||| • • • •	174 - 45
Trade 1 ten for 10 ones. Now you have 6 tens and 14 ones, so you can subtract 5 ones.	■ ||| ||| • • • • • • • • • • • • • •	6 1 1⁄7⁄4 - 45
Subtract 5 from 14 and record 9 in the ones place.	■ ||| ||| • • • • • • • • •	6 1 1⁄7⁄4 - 45 9
Subtract 4 tens (40) from 6 tens (60) and record 2 in the tens place. There are no hundreds to subtract, so record 1 in the hundreds place.	■ || • • • • • • • • •	6 1 1⁄7⁄4 - 45 129

2. Lynda sold her bicycle at a garage sale for $75. She used the money she earned at the garage sale, along with money out of her savings account, to buy a new bicycle that cost $235. How much money did she withdraw from her savings account?

Actions	Base 10 Blocks	Paper & Pencil Procedure
Represent 235.	■ ■ ||| • • • • •	235 - 75
Subtract 5 from 5 and record 0 in the ones place.	■ ■ |||	235 - 75 0
Trade 1 hundred for 10 tens. Now you have 1 hundred and 13 tens, so you can subtract 7 tens.	■ ||||| ||||| |||	1 1 2⁄3⁄5 - 75 0
Subtract 7 tens (70) from 13 tens (130) and record 6 in the tens place.	■ ||||| |	1 1 2⁄3⁄5 - 75 60
There are 0 hundreds to subtract, so record 1 in the hundreds place.	■ ||||| |	1 1 2⁄3⁄5 - 75 160

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3. The PTA sold school supplies to raise money for new computers. They purchased 150 packages of markers and 123 packages of pens. How many more packages of markers did they purchase?

Actions	Base 10 Blocks	Paper & Pencil Procedure
Represent 150.	■ IIIII	150 - 123
Trade 1 ten for 10 ones. Now you have 4 tens and 10 ones, so you can subtract 3 ones.	■ IIII • • • • • • • • • •	^{4}1̸^{1}50 - 123
Subtract 3 from 10 and record 7 in the ones place.	■ IIII • • • • • • •	^{4}1̸^{1}50 - 123 7
Subtract 2 tens (20) from 4 tens (40) and record 2 in the tens place.	■ II • • • • • • •	^{4}1̸^{1}50 - 123 27
Subtract 1 hundred from 1 hundred. You do not need to record 0 in the hundreds place.	II • • • • • • •	^{4}1̸^{1}50 - 123 27

4. Antonio earned $515 mowing lawns one summer. He saved $149 and spent the rest of his money on a custom-built skateboard. How much did he pay for the skateboard?

Actions	Base 10 Blocks	Paper & Pencil Procedure
Represent 515.	■ ■ ■ I • • • • • ■ ■	515 - 149
Trade 1 ten for 10 ones. Now you have 0 tens and 15 ones, so you can subtract 9 ones.	■ ■ ■ • • • • • • • • • • ■ ■ • • • • •	^{0}5̸^{1}15 - 149
Subtract 9 from 15 and record 6 in the ones place.	■ ■ ■ • • • • • ■ ■ •	^{0}5̸^{1}15 - 149 6
Trade 1 hundred for 10 tens. Now you have 4 hundreds and 10 tens, so you can subtract 4 tens.	■ ■ IIIII • • • • • ■ ■ IIIII •	^{4}^{10}5̸^{1}15 - 149 6
Subtract 4 tens (40) from 10 tens (100) and record 6 in the tens place.	■ ■ IIIII • • • • • ■ ■ I •	^{4}^{10}5̸^{1}15 - 149 66
Subtract 1 hundred from 4 hundreds and record 3 in the hundreds place.	■ ■ IIIII • • • • • ■ I •	^{4}^{10}5̸^{1}15 - 149 366

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5. Taneisha won a jar of 234 pennies by having the closest estimate for the numbers of pennies in the jar. She estimated 219 pennies. How far off was her estimate?

Actions	Base 10 Blocks	Paper & Pencil Procedure
Represent 234.	■ ■ I I I • • • •	234 - 219
Trade 1 ten for 10 ones. Now you have 2 tens and 14 ones, so you can subtract 9 ones.	■ ■ I I • • • • • • • • • • • • • •	2 23̸4 - 219
Subtract 9 from 14 and record 5 in the ones place.	■ ■ I I • • • • •	2 1 23̸4 - 219 5
Subtract 1 ten (10) from 2 tens (20) and record 1 in the tens place.	■ ■ I • • • • •	2 1 23̸4 - 219 15
Subtract 200 from 200. You do not need to record a 0 in the hundreds place.	I • • • • •	2 1 23̸4 - 219 15

6. Only seventh and eighth grade students at Washington Middle School can participate in the school sports program. A total of 408 students attend the school and 143 of those students are in sixth grade. How many students are eligible for sports?

Actions	Base 10 Blocks	Paper & Pencil Procedure
Represent 408.	■ ■ ■ ■ • • • • • • • •	408 - 143
Subtract 3 from 8 and record 5 in the ones place.	■ ■ ■ ■ • • • • •	408 - 143 5
Trade 1 hundred for 10 tens. Now you have 3 hundreds and 10 tens, so you can subtract 4 tens.	■ ■ ■ I I I I I • • • • • I I I I I	3 10 4̸08 - 143 5
Subtract 4 tens (40) from 10 tens (100) and record 6 in the tens place.	■ ■ ■ I I I I I • • • • • I	3 10 4̸08 - 143 65
Subtract 1 hundred from 3 hundreds and record 2 in the hundreds place.	■ ■ I I I I I • • • • • I	3 10 4̸08 - 143 265