Lesson 13 Problem Set

1. Use the standard algorithm to solve the following subtraction problems.

   a. \[ 7,525 \quad -3,502 = 4,023 \]
   b. \[ 17,525 \quad -13,502 = 4,023 \]
   c. \[ 6,625 \quad -4,417 = 2,208 \]
   d. \[ 4,625 \quad -435 = 4,190 \]
   e. \[ 6,500 \quad -470 = 5,030 \]
   f. \[ 6,025 \quad -3,502 = 2,523 \]
   g. \[ 23,640 \quad -14,630 = 9,010 \]
   h. \[ 431,925 \quad -204,815 = 227,110 \]
   i. \[ 219,925 \quad -121,705 = 98,220 \]

Directions: Draw a tape diagram to represent each problem. Use numbers to solve and write your answer as a statement. Check your answers.

2. What number must be added to 13,875 to result in a sum of 25,884?
3. Artist Michelangelo was born on March 6, 1475. Author Mem Fox was born on March 6, 1946. How many years after Michelangelo was born was Mem born?

4. During the month of March, 68,025 pounds of king crab were caught. If 15,614 pounds were caught in the first week of March, how many pounds were caught in the rest of the month?

5. James bought a used car. After driving exactly 9,050 miles, the odometer read 118,064 miles. What was the odometer reading when James bought the car?
1. a. \[8,512 \quad - 2,501\]
   b. \[18,042 \quad - 4,122\]
   c. \[8,052 \quad - 1,561\]

2. Draw a tape diagram to represent the following problem. Use numbers to solve and write your answer as a statement.
   a. What number must be added to 1,575 to result in a sum of 8,625?
Lesson 13 Homework

1. Use the standard algorithm to solve the following subtraction problems.

   a. 2,431
      \[ \quad - \quad 341 \]

   b. 422,431
      \[ \quad - \quad 14,321 \]

   c. 422,431
      \[ \quad - \quad 92,420 \]

   d. 422,431
      \[ \quad - \quad 392,420 \]

   e. 982,430
      \[ \quad - \quad 92,300 \]

   f. 243,089
      \[ \quad - \quad 137,079 \]

   g. 2,431 \quad - \quad 920 =

   h. 892,431 \quad - \quad 520,800 =

2. What number must be added to 14,056 to result in a sum of 32,713?
Lesson 13 Homework
NYS COMMON CORE MATHEMATICS CURRICULUM

Directions: Draw a tape diagram to model each problem. Use numbers to solve and write your answers as a statement. Check your answers.

3. An elementary school collected 1,705 bottles for a recycling program. A high school also collected some bottles. Both schools collected 3,627 bottles combined. How many bottles did the high school collect?

4. A computer shop sold $356,291 worth of computers and accessories. It sold $43,720 worth of accessories. How much did the computer shop sell in computers?

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

   b. 186,101 of the adults are males. How many adults are female?
1. Use the standard algorithm to solve the following subtraction problems.

   a. \[ 2,460 - 1,370 \]
   b. \[ 2,460 - 1,470 \]
   c. \[ 97,684 - 49,700 \]
   d. \[ 2,460 - 1,472 \]
   e. \[ 124,306 - 31,117 \]
   f. \[ 97,684 - 4,705 \]
   g. \[ 124,006 - 121,117 \]
   h. \[ 97,684 - 47,705 \]
   i. \[ 124,060 - 31,117 \]

Directions: Draw a tape diagram to represent each problem. Use numbers to solve and write your answer as a statement. Check your answers.

2. There are 86,400 seconds in one day. If Mr. Liegel is at work for 28,800 seconds a day, how many seconds a day is he away from work?
3. A newspaper company delivered 240,900 newspapers before 6 a.m. on Sunday. There were a total of 525,600 newspapers to deliver. How many more newspapers needed to be delivered on Sunday?

4. A theater holds a total of 2,013 chairs. 197 chairs are in the VIP section. How many chairs are not in the VIP section?

5. Chuck’s mom spent $19,155 on a new car. She had $30,064 in her bank account. How much money does Chuck’s mom have after buying the car?
Lesson 14: Use place value understanding to decompose to smaller units up to 3 times using the standard subtraction algorithm, and apply the algorithm to solve word problems using tape diagrams.

Name ___________________________ Date ________________

Directions: Use the standard algorithm to solve the following subtraction problems.

1. \[19,350 - 5,761\]

2. \[32,010 - 2,546\]

Directions: 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?
1. Use the standard algorithm to solve the following subtraction problems.

a. 71,989
   - 21,492

b. 371,989
   - 96,492

c. 371,089
   - 25,192

d. 879,989
   - 721,492

e. 879,009
   - 788,492

f. 879,989
   - 21,070

g. 879,000
   - 21,989

h. 279,389
   - 191,492

i. 500,989
   - 242,000
Directions: Draw a tape diagram to represent each problem. Use numbers to solve and write your answer as a statement.

2. Jason ordered 239,021 pounds of flour to be used in his 25 bakeries. The company delivering the flour showed up with 451,202 pounds. How many extra pounds of flour were delivered?

3. In May, the New York Public Library had 124,061 books checked out. Of those books, 31,117 were mystery books. How many of checked out books were not mystery books?

4. A Class A dump truck can haul 239,000 pounds of dirt. A Class C dump truck can haul 600,200 pounds of dirt. How many more pounds can a Class C truck haul than a Class A truck?
1. Directions: Use the standard subtraction algorithm to solve the problems below.

   a. \[101,660 - 91,680\]
   b. \[101,660 - 9,980\]
   c. \[242,561 - 44,702\]
   d. \[242,561 - 74,987\]
   e. \[1,000,000 - 592,000\]
   f. \[1,000,000 - 592,500\]
   g. \[600,658 - 592,569\]
   h. \[600,000 - 592,569\]
Directions: Use a tape diagram 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?

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?
Lesson 15 Exit Ticket

Name ___________________________ Date __________________

Directions: Draw a tape diagram to model each problem and solve.

1. $956,204 - 780,169 = ______$

2. A construction company was building a stone wall on Main Street. 100,000 stones were delivered to the site. On Monday they used 15,631 stones. How many stones remain for the rest of the week? Write your answer as a statement.
1. Directions: Use the standard subtraction algorithm to solve the problems below.

a. \[ 9,656 - 838 \]

b. \[ 59,656 - 5,880 \]

c. \[ 759,656 - 579,989 \]

d. \[ 294,150 - 166,370 \]

e. \[ 294,150 - 239,089 \]

f. \[ 294,150 - 96,400 \]

g. \[ 800,500 - 79,989 \]

h. \[ 800,500 - 45,500 \]

i. \[ 800,500 - 276,664 \]
Directions: Use a tape diagram to solve the problems below. Check your answers.

2. A fishing boat was out to sea for 6 months and traveled a total of 8,578 miles. In the first month, the boat traveled 659 miles. How many miles did the fishing boat travel during the remaining 5 months?

3. A national monument had 160,747 visitors during the first week of September. A total of 759,656 people visited the monument in September. How many people visited the monument in September after the first week?

4. Shadow Software Company earned a total of $800,000 selling programs during the year 2012. $125,300 of that amount was used to pay expenses of the company. How much profit did Shadow Software Company make in the year 2012?

5. At the local aquarium, Bubba the Seal ate a 25,634 grams of fish during the week. If, on the first day of the week, he ate 6,987 grams of fish, how many grams of fish did he eat during the remainder of the week?
Lesson 16: Solve two-step word problems using the standard subtraction algorithm fluently modeled with tape diagrams and assess the reasonableness of answers using rounding.

Date: 5/9/13

© Bill Davidson

<table>
<thead>
<tr>
<th>A</th>
<th># Correct _____</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Write in centimeters.</td>
</tr>
<tr>
<td>1</td>
<td>2 m =</td>
</tr>
<tr>
<td>2</td>
<td>3 m =</td>
</tr>
<tr>
<td>3</td>
<td>4 m =</td>
</tr>
<tr>
<td>4</td>
<td>9 m =</td>
</tr>
<tr>
<td>5</td>
<td>1 m =</td>
</tr>
<tr>
<td>6</td>
<td>7 m =</td>
</tr>
<tr>
<td>7</td>
<td>5 m =</td>
</tr>
<tr>
<td>8</td>
<td>8 m =</td>
</tr>
<tr>
<td>9</td>
<td>6 m =</td>
</tr>
<tr>
<td>10</td>
<td>1 m 20 cm =</td>
</tr>
<tr>
<td>11</td>
<td>1 m 30 cm =</td>
</tr>
<tr>
<td>12</td>
<td>1 m 40 cm =</td>
</tr>
<tr>
<td>13</td>
<td>1 m 90 cm =</td>
</tr>
<tr>
<td>14</td>
<td>1 m 95 cm =</td>
</tr>
<tr>
<td>15</td>
<td>1 m 85 cm =</td>
</tr>
<tr>
<td>16</td>
<td>1 m 84 cm =</td>
</tr>
<tr>
<td>17</td>
<td>1 m 73 cm =</td>
</tr>
<tr>
<td>18</td>
<td>1 m 62 cm =</td>
</tr>
<tr>
<td>19</td>
<td>2 m 62 cm =</td>
</tr>
<tr>
<td>20</td>
<td>7 m 62 cm =</td>
</tr>
<tr>
<td>21</td>
<td>5 m 27 cm =</td>
</tr>
<tr>
<td>22</td>
<td>3 m 87 cm =</td>
</tr>
</tbody>
</table>

© 2012 Common Core, Inc. All rights reserved. commoncore.org
### Lesson 16 Sprint

Solve two-step word problems using the standard subtraction algorithm fluently modeled with tape diagrams and assess the reasonableness of answers using rounding.

**Date:** 5/9/13

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Improvement _____</th>
<th># Correct _____</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 m =</td>
<td>cm 23 1 m 1 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>2</td>
<td>2 m =</td>
<td>cm 24 1 m 2 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>3</td>
<td>3 m =</td>
<td>cm 25 1 m 3 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>4</td>
<td>7 m =</td>
<td>cm 26 1 m 9 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>5</td>
<td>5 m =</td>
<td>cm 27 2 m 9 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>6</td>
<td>9 m =</td>
<td>cm 28 3 m 9 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>7</td>
<td>4 m =</td>
<td>cm 29 7 m 9 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>8</td>
<td>8 m =</td>
<td>cm 30 7 m 4 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>9</td>
<td>6 m =</td>
<td>cm 31 4 m 8 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>10</td>
<td>1 m 10 cm =</td>
<td>cm 32 6 m 3 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>11</td>
<td>1 m 20 cm =</td>
<td>cm 33 9 m 5 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>12</td>
<td>1 m 30 cm =</td>
<td>cm 34 2 m 50 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>13</td>
<td>1 m 70 cm =</td>
<td>cm 35 3 m 85 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>14</td>
<td>1 m 75 cm =</td>
<td>cm 36 6 m 31 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>15</td>
<td>1 m 65 cm =</td>
<td>cm 37 6 m 7 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>16</td>
<td>1 m 64 cm =</td>
<td>cm 38 4 m 60 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>17</td>
<td>1 m 53 cm =</td>
<td>cm 39 7 m 25 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>18</td>
<td>1 m 42 cm =</td>
<td>cm 40 4 m 13 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>19</td>
<td>2 m 42 cm =</td>
<td>cm 41 6 m 2 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>20</td>
<td>8 m 42 cm =</td>
<td>cm 42 10 m 3 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>21</td>
<td>5 m 29 cm =</td>
<td>cm 43 10 m 30 cm =</td>
<td>cm</td>
</tr>
<tr>
<td>22</td>
<td>3 m 89 cm =</td>
<td>cm 44 11 m 48 cm =</td>
<td>cm</td>
</tr>
</tbody>
</table>

© Bill Davidson
Name ________________________________ Date __________________

Directions: Estimate first and then solve each problem. Model the problem with a tape diagram. Explain if your answer is reasonable.

1. On Monday, a farm sold 25,196 pounds of potatoes. On Tuesday, they sold 18,023 pounds. On Wednesday, they sold some more potatoes. In all, they sold 62,409 pounds of potatoes in the 3 days.

   a. About how many pounds of potatoes did the farm sell on Wednesday? Estimate by rounding each value to the nearest thousand and then compute.

   b. Find the precise number of pounds of potatoes sold on Wednesday.

   c. Is your precise answer reasonable? Compare your estimate from (a) to your answer from (b). Write a sentence to explain your reasoning.
Lesson 16: Solve two-step word problems using the standard subtraction algorithm fluently modeled with tape diagrams and assess the reasonableness of answers using rounding.

Date: 5/9/13

2. A gas station had two pumps. Pump A dispensed 241,752 gallons. Pump B dispensed 113,916 more gallons than Pump A.

   a. About how many gallons did both pumps dispense? Estimate by rounding each value to the nearest hundred thousand and then compute.

   b. Exactly how many gallons did both pumps dispense?

   c. Assess the reasonableness of your answer in (b). Use your estimate from (a) to explain.

3. Martin’s car had 86,456 miles on it. Of that distance, Martin’s wife drove 24,901 miles, and his son drove 7,997 miles. Martin drove the rest.

   a. About how many miles did Martin drive? Round each value to estimate.

   b. Exactly how many miles did Martin drive?

   c. Assess the reasonableness of your answer in (b). Use your estimate from (a) to explain.
4. A class read 3,452 pages the first week and 4,090 more pages in the second week. How many pages had they read by the end of the second week? Is your answer reasonable? Explain how you know using estimation.

5. A cargo plane weighed 500,000 pounds. After the first load was taken off, the airplane weighed 437,981 pounds. Then 16,478 more pounds were taken off. What was the total number of pounds of cargo removed from the plane? Is your answer reasonable? Explain.
Name ___________________________________________ Date ________________

Directions: Model each problem with a tape diagram. Estimate and then solve each problem. Explain if your answer is reasonable.

1. Quarterback Brett Favre passed for 71,838 yards between the years 1991 and 2011. His all-time high was 4,413 passing yards in one year. In his second highest year, he threw 4,212 passing yards.
   
   a. About how many passing yards did he throw in the remaining years? Estimate by rounding each value to the nearest thousand and then compute.
   
   b. Exactly how many passing yards did he throw in the remaining years?
   
   c. Assess the reasonableness of your answer in (b). Use your estimate from (a) to explain.
Name __________________________________________ Date _______________________

Directions: Model each problem with a tape diagram. Estimate and then solve each problem. Explain if your answer is reasonable.

1. Zachary’s final project for a college course took a semester to write and had 95,234 words. Zachary wrote 35,295 words the first month and 19,240 words the second month. How many words did he write during the remaining part of the semester?

   a. Round each value to the nearest ten thousand to estimate how many words Zachary wrote during the remaining part of the semester.

   b. Find the exact number of words written during the remaining part of the semester.

   c. Use your answer from (a) to explain why your answer in (b) is reasonable.
2. During the first quarter of the year, 351,875 people purchased a particular app for their smartphones. During the second quarter of the year, 101,949 fewer people downloaded the app than during the first quarter. How many downloads occurred during the two quarters of the year?

a. Round each number to the nearest hundred thousand to estimate how many downloads occurred during the first two quarters of the year.

b. Determine exactly how many downloads occurred during the first two quarters of the year.

c. Determine if your answer is reasonable. Explain.

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? Explain how you know using rounding.