

$1 \text{ km} = 1000 \text{ m}$

$100 \text{ cm} = 1 \text{ m}$

Name Key

Date _____

1.

Distance	
71 km	<u>71000</u> m
<u>30</u> km	30,000 m
81 m	<u>81000</u> cm
<u>4</u> m	400 cm

2. $13 \text{ km } 20 \text{ m} = \underline{13,020} \text{ m}$

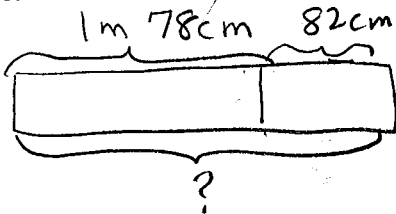
$$\begin{array}{r} 13000 \\ + 20 \\ \hline 13020 \end{array}$$

3. $401 \text{ km } 101 \text{ m} - 34 \text{ km } 153 \text{ m} = \underline{366,948}$

$$\begin{array}{r} 401000 \\ - 34000 \\ \hline \end{array}$$

$$\begin{array}{r} 39699 \\ 40101 \\ - 34153 \\ \hline 366948 \end{array}$$

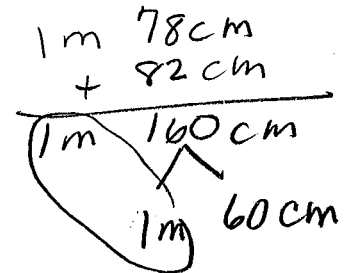
4. Gabe built a toy tower that measured 1 m 78 cm. After building some more, he measured it, and it was 82 cm taller. How tall is his tower now? Draw a tape diagram to model this problem. Use a simplifying strategy or an algorithm to solve and write your answer as a statement.



$$1 \text{ m } 78 \text{ cm} + 82 \text{ cm}$$

$$\begin{array}{r} 178 \text{ cm} \\ + 82 \text{ cm} \\ \hline 260 \end{array}$$

Gabe's tower is 260 cm tall.



$$2 \text{ m } 60 \text{ cm}$$

Gabe's tower is 2m 60cm tall.

Name Key

Date _____

1. Find the equivalent measures.

a. 5 km = 5,000 m

b. 13 km = 13,000 m

c. 17,000 m = 17,000 m

d. 60 km = 6,000 m

e. 7 m = 700 cm

f. 19 m = 1,900 cm

g. 24 m = 2,400 cm

h. 90 m = 9,000 cm

2. Find the equivalent measures.

a. 7 km 123 m = 7,123 m
7,000

b. 22 km 22 m = 22,022 m
22,000

c. 875 km 4 m = 875,004 m
875,000

d. 7 m 45 cm = 745 cm
700

e. 67 m 7 cm = 6,707 cm
6,700

f. 204 m 89 cm = 204,89 cm
20,400

3. Solve.

a. 2 km 303 m - 556 m = 2,303
2,000
303
2,303

b. 2 m - 54 cm = 146
200cm

$$\begin{array}{r} 2\text{m} \\ - 54 \\ \hline 146 \end{array}$$

c. Express your answer in the smaller of the two units:

338 km 853 m + 62 km 71 m = 400,924

$$\begin{array}{r} 338000 \\ + 853 \\ \hline 338853 \end{array} \quad \begin{array}{r} 62000 \\ + 71 \\ \hline 62071 \end{array} \quad \begin{array}{r} 62071 \\ + 338853 \\ \hline 400924 \end{array}$$

e. 701 km - 523 km 445 m = 177,555

$$\begin{array}{r} 701000 \\ - 523445 \\ \hline 177555 \end{array}$$

d. Express your answer in the smaller of the two units:

800 m 35 cm - 154 m 49 cm = 64,586

$$\begin{array}{r} 80000 \\ + 35 \\ \hline 80035 \end{array} \quad \begin{array}{r} 15400 \\ + 49 \\ \hline 15449 \end{array}$$

$$\begin{array}{r} 79912 \\ - 15449 \\ \hline 64586 \end{array}$$

f. 231 km 811 m + 485 km 829 m = 717,640

$$\begin{array}{r} 231000 \\ + 811 \\ \hline 231811 \end{array} \quad \begin{array}{r} 485000 \\ + 829 \\ \hline 485829 \end{array}$$

$$\begin{array}{r} 485829 \\ + 231811 \\ \hline 717640 \end{array}$$

© 2013 Common Core, Inc. Some rights reserved. commoncore.org



Lesson 1:

Express metric length measurements in terms of a smaller unit; model and solve addition and subtraction word problems involving metric length.

Date:

7/3/13



2.A.15

Key

Use a tape diagram to model each problem. Solve using a simplifying strategy or an algorithm and write your answer as a statement.

4. The length of Celia's garden is 15 m 24 cm. The length of her friend's garden is 2 m 98 cm more than Celia's. What is the length of her friend's garden?

Celia's garden is 18m 22cm long, or 1822cm

5. Sylvia ran 3 km 290 m in the morning. Then she ran some more in the evening. If she ran a total of 10 km, how far did she run in the evening?

Sylvia ran 6,710 m in the evening

6. Jenny's sprinting distance was 356 meters shorter than Tyler's. Tyler sprinted a distance of 1 km 3 m. How many meters did Jenny sprint?

Jenny sprinted 647m.

7. The electrician had 7 m 23 cm of electrical wire. He used 551 cm for one wiring project. How many centimeters of wire did he have left?

The electrician has 172 cm of wire left.

Name Key

Date _____

1. Find the equivalent measures.

a. $21 \text{ kg } 415 \text{ g} = \underline{21,415} \text{ g}$
 $\quad \quad \quad 21,000$

c. $87 \text{ kg } 17 \text{ g} = \underline{8,717} \text{ g}$

b. $2 \text{ kg } 91 \text{ g} = \underline{2,091} \text{ g}$

d. $\underline{96} \text{ kg } \underline{20} \text{ g} = 96,020 \text{ g}$

Directions: Use a tape diagram to model and solve the problems below.

The table below shows the weight of three dogs.

Dog	Weight
Great Dane	59 kg
Golden Retriever	32 kg 48 g
Chihuahua	1,329 g

59000g
32043g
1329g

2. Put the three dogs in order from lightest to heaviest.

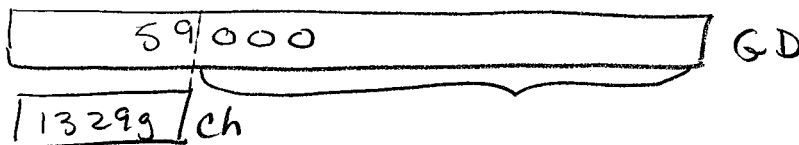
Chihuahua

Chihuahua, Golden Retriever, Gr. Dane.

Golden R.

Great D.

3. How much more does the Great Dane weigh than the Chihuahua?



$$\begin{array}{r} 899 \\ 59000 \\ - 1329 \\ \hline 57671 \end{array}$$

The Great Dane weighs 57,671g more than the Chihuahua

Name Key

Date _____

1. Complete the table.

Mass	
kg	g
1	1,000
6	6,000
8	8,000
15	15,000
24	24,000
550	550,000

2. Find the equivalent measures.

a. 2 kg 700 g = $\begin{array}{r} +2000 \\ +700 \\ \hline 2700 \end{array}$ g

b. 5 kg 945 g = $\begin{array}{r} 5000 \\ +945 \\ \hline 5945 \end{array}$ g

c. 29 kg 58 g = $\begin{array}{r} +29000 \\ +58 \\ \hline 29058 \end{array}$ g

d. 31 kg 3 g = $\begin{array}{r} 31000 \\ +3 \\ \hline 31003 \end{array}$ g

e. 66,597 g = 66 kg 597 g

f. 270 kg 41 g = $\begin{array}{r} 270000 \\ +41 \\ \hline 270041 \end{array}$ g

3. Solve.

a. 370 g + 80 g = 370 g

b. 5 kg - 730 g = $\begin{array}{r} 49 \\ 5000 \\ -730 \\ \hline 4270 \end{array}$ g

c. Express the answer in the smaller unit:
27 kg 547 g + 694 g = 28,237 g

$$\begin{array}{r} 27543 \\ +694 \\ \hline 28237 \end{array}$$

d. Express the answer in the smaller unit:
16 kg + 2,800 g = 12,800 g

$$\begin{array}{r} 16000 \\ +2800 \\ \hline 12800 \end{array}$$

e. Express the answer in mixed units:
4 kg 229 g - 355 g = 3 kg 874 g

$$\begin{array}{r} 311 \\ 4229 \\ -355 \\ \hline 3874 \end{array}$$

f. Express the answer in mixed units:
70 kg 101 g - 17 kg 862 g = 67 kg 239 g

$$\begin{array}{r} 69101 \\ -17862 \\ \hline 67239 \end{array}$$

$$\begin{array}{r} 70000 \\ +101 \\ \hline 70101 \\ -17862 \\ \hline 2562 \end{array}$$

Key

Directions: Use a tape diagram to model each problem. Solve using a simplifying strategy or an algorithm and write your answer as a statement.

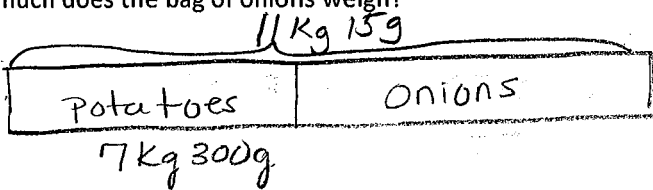
4. One suitcase weighs 23 kg 696 g. Another suitcase weighs 25 kg 528 g. What is the total weight of the two suitcases?

$$\begin{array}{r}
 1 \quad \boxed{23\text{kg}696\text{g}} \\
 2 \quad \boxed{25\text{kg}528\text{g}} \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 39 \\
 + 52 \\
 \hline
 49,224
 \end{array}$$

The two suitcases together weigh 49,224g
or 49kg 224g

5. A bag of potatoes and a bag of onions weigh 11 kg 15 g. If the bag of potatoes weighs 7 kg 300 g, how much does the bag of onions weigh?



$$11\text{kg}15\text{g} - 7\text{kg}300\text{g}$$

$$\begin{array}{r}
 11015 \\
 - 7300 \\
 \hline
 3715
 \end{array}$$

The bag of onions weighs 3,715g OR 3kg.715g.

6. The table below shows the weight of three dogs.

Student	Weight
Lassie <i>Lightest</i>	21 kg 249 g
Riley <i>Heaviest</i>	23 kg 128 g
Fido	21,268 g

$$\begin{array}{r}
 23128\text{g} \\
 - 21249\text{g} \\
 \hline
 1879\text{g}
 \end{array}$$

What is the weight difference between the heaviest and lightest dog?

$$\begin{array}{r}
 23128 \\
 - 21249 \\
 \hline
 1879
 \end{array}$$

© 2013 Common Core, Inc. Some rights reserved. commoncore.org

Name Key

Date _____

1. Find the missing numbers.

a. 6 L 127 mL = 6,127 mL

b. 706 L 220 mL = 706,220 mL

c. 12 L 9 mL = 12,009 mL

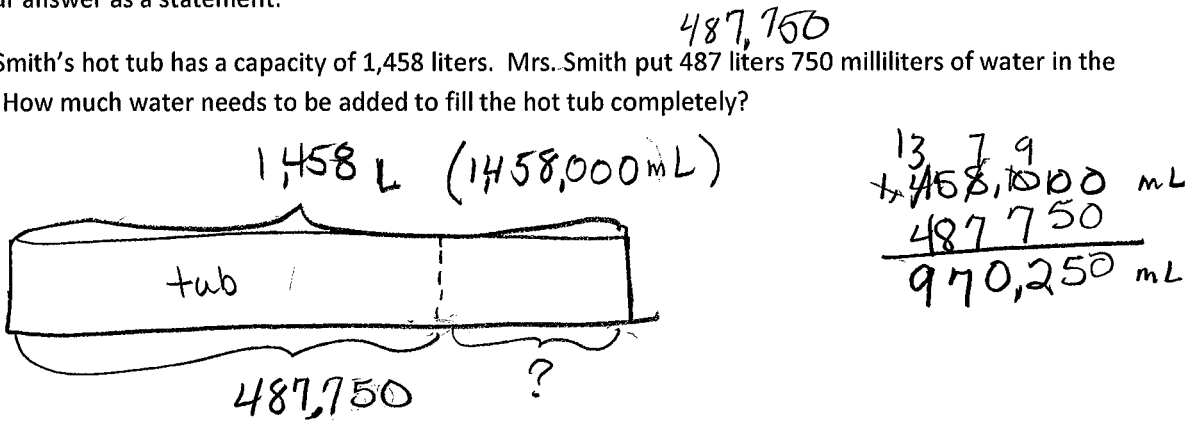
d. 906 L 010 mL = 906,010 mL

2. 81 L 603 mL - 22 L 489 mL = 59,114

$$\begin{array}{r} 78\text{L } 1\text{L } 603\text{mL} \\ - 22\text{L } 489\text{mL} \\ \hline 59\text{L } 114\text{mL} \end{array}$$

Use a tape diagram to model the following problem. Solve using a simplifying strategy or an algorithm and write your answer as a statement.

3. The Smith's hot tub has a capacity of 1,458 liters. Mrs. Smith put 487,750 milliliters of water in the tub. How much water needs to be added to fill the hot tub completely?



To fill the hot tub 970,250 mL need to be added.
(970 L 250 mL)

Name Key

Date _____

1. Complete the table.

Liquid Capacity	
L	mL
1	1,000
8	8,000
27	27,000
39	39,000
68	68,000
102	102,000

2. Find the missing numbers.

- a. 5 L 850 mL = $\begin{array}{r} 5000 \\ + 850 \\ \hline 5850 \end{array}$ mL
- b. 29 L 303 mL = $\begin{array}{r} 29000 \\ + 303 \\ \hline 29303 \end{array}$ mL
- c. 37 L 37 mL = 37,037 mL
- d. 17 L 2 mL = 17,002 mL
- e. 13,674 mL = 13 L 674 mL
- f. 275,005 mL = 275 L 5 mL

3. Solve.

a. $\begin{array}{r} 545 \\ + 48 \\ \hline 593 \end{array}$ mL + 48 mL = 593

c. Express the answer in the smaller unit:

$27\text{ L } 576\text{ mL} + 784\text{ mL} = 28,360$

$$\begin{array}{r} 27576 \\ + 784 \\ \hline 28360 \end{array}$$

e. Express the answer in mixed units:

$9\text{ L } 213\text{ mL} - 638\text{ mL} = 8,575$

8 L 575 mL

$$\begin{array}{r} 8\text{ L } 213 \\ - 638 \\ \hline 8\text{ L } 575 \end{array}$$

b. $8\text{ L} - 5,740\text{ mL} = 2,260$

$$\begin{array}{r} 79 \\ 8000 \\ - 5740 \\ \hline 2260 \end{array}$$

d. Express the answer in the smaller unit:

$27\text{ L} + 3,100\text{ mL} = 58,000$

$$\begin{array}{r} 27000 \\ + 31000 \\ \hline 58000 \end{array}$$

f. Express the answer in mixed units:

$41\text{ L } 724\text{ mL} - 28\text{ L } 945\text{ mL} = 12\text{ L } 779\text{ mL}$

$$\begin{array}{r} 310\text{ L } 724 \\ - 28\text{ L } 945 \\ \hline 12\text{ L } 779 \end{array}$$

Key

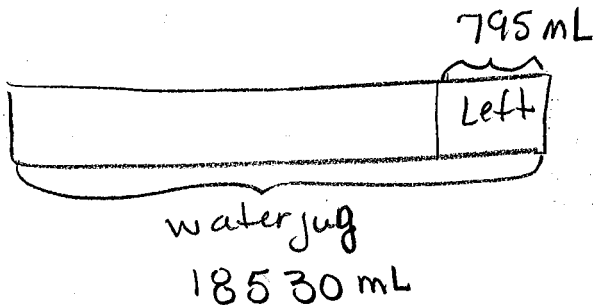
Use a tape diagram to model each problem. Solve using a simplifying strategy or an algorithm and write your answer as a statement.

4. Sammy's bucket was filled with 2,530 milliliters of water, Marie's bucket was filled with 2 liters 30 milliliters of water, and Katie's bucket was filled with 2 liters 350 milliliters of water. Whose bucket had the least amount of water?

Sam 2530 mL
 Marie 2030 mL
 Katie 2350 mL

Marie has the least of water.

5. At football practice, the water jug was filled with 18 liters 530 milliliters of water. At the end of practice, there were 795 milliliters left. How much water did the team drink?



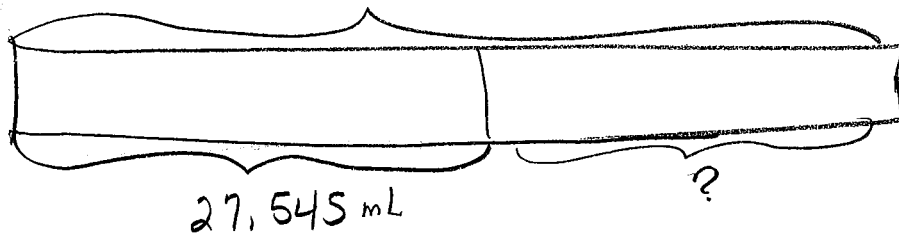
$$\begin{array}{r} 18\cancel{5}30 \\ - 795 \\ \hline 17,735 \end{array}$$

The team drank 17,735 mL of water.

Ⓐ 17 L 735 mL

6. 27,545 milliliters of the car's gas were used. Then 19 liters 878 milliliters more were used. If the gas tank can hold 56 liters 202 milliliters of gas, how much gas remains?

Gas tank holds 56L 202 mL (56,202 mL)



$$\begin{array}{r} 56\cancel{2}02 \\ + 19\cancel{8}78 \\ \hline 28,657 \end{array}$$

28L 657 mL or 28,657 mL of gas remains in the tank.

key

A

Correct _____

Write in meters and centimeters.

1	$3\text{ m} + 1\text{ m} =$	4 m	cm	23	$3\text{ m } 10\text{ cm} + 1\text{ m } 1\text{ cm} =$	4 m	11 cm
2	$4\text{ m} + 2\text{ m} =$	6 m	cm	24	$3\text{ m } 10\text{ cm} + 2\text{ m } 2\text{ cm} =$	5 m	12 cm
3	$2\text{ m} + 3\text{ m} =$	5 m	cm	25	$3\text{ m } 10\text{ cm} + 3\text{ m } 3\text{ cm} =$	6 m	13 cm
4	$5\text{ m} + 4\text{ m} =$	9 m	cm	26	$3\text{ m } 20\text{ cm} + 3\text{ m } 3\text{ cm} =$	6 m	23 cm
5	$2\text{ m} + 2\text{ m} =$	4 m	cm	27	$6\text{ m } 30\text{ cm} + 2\text{ m } 20\text{ cm} =$	8 m	50 cm
6	$3\text{ m} + 3\text{ m} =$	6 m	cm	28	$8\text{ m } 30\text{ cm} + 2\text{ m } 20\text{ cm} =$	10 m	50 cm
7	$4\text{ m} + 4\text{ m} =$	8 m	cm	29	$6\text{ m } 50\text{ cm} + 2\text{ m } 25\text{ cm} =$	8 m	75 cm
8	$5\text{ m} + 5\text{ m} =$	10 m	cm	30	$6\text{ m } 25\text{ cm} + 2\text{ m } 25\text{ cm} =$	8 m	50 cm
9	$5\text{ m } 7\text{ cm} + 1\text{ m} =$	6 m	7 cm	31	$4\text{ m } 70\text{ cm} + 1\text{ m } 10\text{ cm} =$	5 m	80 cm
10	$6\text{ m } 7\text{ cm} + 1\text{ m} =$	7 m	7 cm	32	$4\text{ m } 80\text{ cm} + 1\text{ m } 10\text{ cm} =$	5 m	90 cm
11	$7\text{ m } 7\text{ cm} + 1\text{ m} =$	8 m	7 cm	33	$4\text{ m } 90\text{ cm} + 1\text{ m } 10\text{ cm} =$	6 m	cm
12	$9\text{ m } 7\text{ cm} + 1\text{ m} =$	9 m	7 cm	34	$4\text{ m } 90\text{ cm} + 1\text{ m } 20\text{ cm} =$	6 m	10 cm
13	$9\text{ m } 7\text{ cm} + 1\text{ cm} =$	9 m	8 cm	35	$4\text{ m } 90\text{ cm} + 1\text{ m } 60\text{ cm} =$	6 m	50 cm
14	$5\text{ m } 7\text{ cm} + 1\text{ cm} =$	5 m	8 cm	36	$5\text{ m } 75\text{ cm} + 2\text{ m } 25\text{ cm} =$	8 m	cm
15	$3\text{ m } 7\text{ cm} + 1\text{ cm} =$	3 m	8 cm	37	$5\text{ m } 75\text{ cm} + 2\text{ m } 50\text{ cm} =$	8 m	25 cm
16	$3\text{ m } 7\text{ cm} + 3\text{ cm} =$	3 m	10 cm	38	$4\text{ m } 90\text{ cm} + 3\text{ m } 50\text{ cm} =$	8 m	40 cm
17	$6\text{ m } 70\text{ cm} + 10\text{ cm} =$	6 m	80 cm	39	$5\text{ m } 95\text{ cm} + 3\text{ m } 25\text{ cm} =$	9 m	20 cm
18	$6\text{ m } 80\text{ cm} + 10\text{ cm} =$	6 m	90 cm	40	$4\text{ m } 85\text{ cm} + 3\text{ m } 25\text{ cm} =$	8 m	10 cm
19	$6\text{ m } 90\text{ cm} + 10\text{ cm} =$	7 m	cm	41	$5\text{ m } 85\text{ cm} + 3\text{ m } 45\text{ cm} =$	9 m	30 cm
20	$6\text{ m } 90\text{ cm} + 20\text{ cm} =$	7 m	10 cm	42	$4\text{ m } 87\text{ cm} + 3\text{ m } 76\text{ cm} =$	8 m	63 cm
21	$6\text{ m } 90\text{ cm} + 30\text{ cm} =$	7 m	20 cm	43	$6\text{ m } 36\text{ cm} + 4\text{ m } 67\text{ cm} =$	11 m	3 cm
22	$6\text{ m } 90\text{ cm} + 60\text{ cm} =$	7 m	50 cm	44	$9\text{ m } 74\text{ cm} + 8\text{ m } 48\text{ cm} =$	18 m	22 cm

© Bill Davidson