Lesson 1: Create conversion tables for length, weight, and capacity units using measurement tools, and use the tables to solve problems.

Date: 1/31/14

<table>
<thead>
<tr>
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<tbody>
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<td>10</td>
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</tbody>
</table>

The rule for converting pounds to ounces is __________________________________________________________________________.

<table>
<thead>
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<th>Yards</th>
<th>Feet</th>
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</table>

The rule for converting yards to feet is __________________________________________________________________________.

<table>
<thead>
<tr>
<th>Feet</th>
<th>Inches</th>
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<tbody>
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<td></td>
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<tr>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

The rule for converting feet to inches is __________________________________________________________________________.

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Lesson 1 Problem Set

Name ___________________________ Date ________________

Use RDW to solve Problems 1–3.

1. Evan put a 2-pound weight on one side of the scale. How many 1-ounce weights will he need to put on the other side of the scale to make them equal?

2. Julius put a 3-pound weight on one side of the scale. Abel put 35 1-ounce weights on the other side. How many more 1-ounce weights does Abel need to balance the scale?

3. Mrs. Upton’s baby weighs 5 pounds and 4 ounces. How many total ounces does the baby weigh?

4. Complete the following conversion tables and write the rule under each table.

   a. |
      | Pounds | Ounces |
      |--------|--------|
      | 1      |        |
      | 3      |        |
      | 7      |        |
      | 10     |        |
      | 17     |        |

The rule for converting pounds to ounces is ____________________________.
Lesson 1: Create conversion tables for length, weight, and capacity units using measurement tools, and use the tables to solve problems.

Date: 1/31/14

5. Solve.
   
   a. 3 feet 1 inch = _________ inches  
   b. 11 feet 10 inches = _________ inches  
   c. 5 yards 1 foot = _________ feet  
   d. 12 yards 2 feet = _________ feet  
   e. 27 pounds 10 ounces = _________ ounces  
   f. 18 yards 9 feet = _________ feet  
   g. 14 pounds 5 ounces = _________ ounces  
   h. 5 yards 2 feet = _________ inches

6. Answer “true” or “false” for the following statements. If the statement is false, change the right side of the comparison to make it true.
   
   a. 2 kilograms > 2,600 grams  __________________
   
   b. 12 feet < 140 inches  __________________
   
   c. 10 kilometers = 10,000 meters  __________________
Lesson 1 Exit Ticket

NYS COMMON CORE MATHEMATICS CURRICULUM

1. Solve.
   
   a. 8 feet = _____ inches

   b. 4 yards 2 feet = _____ feet

   c. 14 pounds 7 ounces = _____ ounces

2. Answer “true” or “false” for the following statements. If the statement is false, change the right side of the comparison to make it true.
   
   a. 3 pounds > 60 ounces  ________________

   b. 12 yards < 40 feet  ________________
Lesson 1 Homework

Name ____________________________ Date ____________________

1. Complete the tables.

<table>
<thead>
<tr>
<th>Yards</th>
<th>Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
<td></td>
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<td>3</td>
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</table>

<table>
<thead>
<tr>
<th>Feet</th>
<th>Inches</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Yards</th>
<th>Inches</th>
</tr>
</thead>
<tbody>
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<tr>
<td>3</td>
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<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

2. Solve.

a. 2 yards 2 inches = __________ inches
b. 9 yards 10 inches = __________ inches

c. 4 yards 2 feet = __________ feet
d. 13 yards 1 foot = __________ feet

e. 17 feet 2 inches = __________ inches
f. 11 yards 1 foot = __________ feet

g. 15 yards 2 feet = __________ feet
h. 5 yards 2 feet = __________ inches

3. Ally has a piece of string that is 6 yards 2 feet long. How many inches of string does she have?
4. Complete the table.

<table>
<thead>
<tr>
<th>Pounds</th>
<th>Ounces</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
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<tr>
<td>10</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

5. Renee’s baby sister weighs 7 pounds 2 ounces. How many ounces does her sister weigh?

6. Answer “true” or “false” for the following statements. If the statement is false, change the right side of the comparison to make it true.

   a. 4 kilograms < 4,100 grams _________________

   b. 10 yards < 360 inches _________________

   c. 10 liters = 100,000 milliliters _________________
Name _____________________________ Date __________________

Use RDW to solve Problems 1–3.

1. Susie has 3 quarts of milk. How many pints does she have?

2. Kristin has 3 gallons and 2 quarts of water. Alana needs the same amount of water but only has 8 quarts. How many more quarts of water does Alana need?

3. Leonard bought 4 liters of orange juice. How many milliliters of juice does he have?

4. Complete the following conversion tables and write the rule under each table.

   a.  
      | Gallons | Quarts |
      |---------|--------|
      | 1       |        |
      | 3       |        |
      | 5       |        |
      | 10      |        |
      | 13      |        |

   The rule for converting gallons to quarts is
   ________________________________________.

   b.  
      | Quarts | Pints |
      |--------|-------|
      | 1      |       |
      | 2      |       |
      | 6      |       |
      | 10     |       |
      | 16     |       |

   The rule for converting quarts to pints is
   ________________________________________.
Lesson 2 Problem Set

5. Solve.
   a. 8 gallons 2 quarts = _______ quarts
   b. 15 gallons 2 quarts = _______ quarts
   c. 8 quarts 2 pints = _______ pints
   d. 12 quarts 3 pints = _______ cups
   e. 26 gallons 3 quarts = _______ pints
   f. 32 gallons 2 quarts = _______ cups

6. Answer true or false for the following statements. If your answer is false, make the statement true.
   a. 1 gallon > 4 quarts
   b. 5 liters = 5,000 milliliters
   c. 15 pints < 1 gallon 1 cup

7. Russell has 5 liters of a certain medicine. If it takes 2 milliliters to make 1 dose, how many doses can he make?

8. Each month, the Moore family drinks 16 gallons of milk and the Siler family goes through 44 quarts of milk. Which family drinks more milk each month?

9. Keith’s lemonade stand served lemonade in glasses with a capacity of 1 cup. If he had 9 gallons of lemonade, how many cups could he sell?
Lesson 2 Exit Ticket

1. Complete the table.

<table>
<thead>
<tr>
<th>Quarts</th>
<th>Cups</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

2. Bonnie’s doctor recommended she should drink 2 cups of milk per day. If she buys 3 quarts of milk, will it be enough milk to last 1 week? Explain how you know.
Lesson 2 Homework

Name _______________________________ Date ___________________

Use the RDW process to solve Problems 1–3.

1. Dawn needs to pour 3 gallons of water into her fish tank. She only has a 1-cup measuring cup. How many cups of water should she put in the tank?

2. Julia has 4 gallons 2 quarts of water. Ally needs the same amount of water but only has 12 quarts. How much more water does Ally need?

3. Sean drank 2 liters of water today, which was 280 milliliters more than he drank yesterday. How much water did he drink yesterday?

4. Complete the tables.
   a. 
<table>
<thead>
<tr>
<th>Gallons</th>
<th>Quarts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>12</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

   b. 
<table>
<thead>
<tr>
<th>Quarts</th>
<th>Pints</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
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<tr>
<td>6</td>
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<tr>
<td>10</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>
5. Solve.
   a. 6 gallons 3 quarts = __________ quarts  
   b. 12 gallons 2 quarts = __________ quarts  
   c. 5 quarts 1 pint = __________ pints  
   d. 13 quarts 3 pints = __________ cups  
   e. 17 gallons 2 quarts = __________ pints  
   f. 27 gallons 3 quarts = __________ cups  


7. Answer “true” or “false” for the following statements. If your answer is false, make the statement true by correcting the right side of the comparison.
   a. 2 quarts > 10 pints  __________________
   b. 6 liters = 6,000 milliliters  __________________
   c. 16 cups < 4 quarts 1 cup  __________________

8. Joey needs to buy 3 quarts of chocolate milk. The store only sells it in pint containers. How many pints of chocolate milk should he buy? Explain how you know.

9. Granny Smith made punch. She used 2 pints of ginger ale, 3 pints of fruit punch, and 1 pint of orange juice. She served the punch in glasses that had a capacity of 1 cup. How many cups can she fill?
Lesson 3 Problem Set

Name ___________________________________________ Date _________________

Use RDW to solve Problems 1–2.

1. Courtney needs to leave the house by 8:00 a.m. If she wakes up at 6:00 a.m., how many minutes does she have to get ready? Use the number line to show your work.

\[ \begin{array}{c|c|c|c|c|c|c|c|c|c|c|c|c} \hline
& 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 & 11 & 12 \\
\hline
\end{array} \]

2. Giuliana’s goal was to run a marathon in under 6 hours. What was her goal in minutes?

3. Complete the following conversion tables and write the rule under each table.
   a. 
   
   \[
   \begin{array}{|c|c|}
   \hline
   \text{Hours} & \text{Minutes} \\
   \hline
   1 & \\
   3 & \\
   6 & \\
   10 & \\
   15 & \\
   \hline
   \end{array}
   \]

   The rule for converting hours to minutes, and minutes to seconds, is _________________________________.

   b. 
   
   \[
   \begin{array}{|c|c|}
   \hline
   \text{Days} & \text{Hours} \\
   \hline
   1 & \\
   2 & \\
   5 & \\
   7 & \\
   10 & \\
   \hline
   \end{array}
   \]

   The rule for converting days to hours is _________________________________.

Lesson 3: Create conversion tables for units of time, and use the tables to solve problems.
Date: 1/31/14

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Lesson 3 Problem Set

4. Solve.
   a. 9 hours 30 minutes = __________ minutes  
   b. 7 minutes 45 seconds = ______ seconds  
   c. 9 days 20 hours = __________ hours  
   d. 22 minutes 27 seconds = ______ seconds  
   e. 13 days 19 hours = __________ hours  
   f. 23 hours 5 minutes = ______ minutes

5. Explain how you solved Problem 4(f).

6. How many seconds are in 14 minutes, 43 seconds?

7. How many hours are there in 4 weeks, 3 days?
Lesson 3: Create conversion tables for units of time, and use the tables to solve problems.

Date: 1/31/14

Lesson 3 Exit Ticket

1. The astronauts from Apollo 17 completed 3 spacewalks while on the moon for a total duration of 22 hours, 4 minutes. How many minutes did the astronauts walk in space?
Name ___________________________ Date ___________________

Use RDW to solve Problems 1–2.

1. Jeffrey practiced his drums from 4:00 p.m. until 7:00 p.m. How many minutes did he practice? Use the number line to show your work.

   - [Number line diagram]

2. Isla used her computer for 5 hours over the weekend. How many minutes did she spend on the computer?

3. Complete the following conversion tables and write the rule under each table.

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<table>
<thead>
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<th>Days</th>
<th>Hours</th>
</tr>
</thead>
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<tr>
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<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

   The rule for converting hours to minutes is ____________________________.

   The rule for converting days to hours is ____________________________.
Lesson 3 Homework

4. Solve.
   a. 10 hours 30 minutes = __________ minutes  
   b. 6 minutes 15 seconds = _______ seconds
   c. 4 days 20 hours = _________ hours  
   d. 3 minutes 45 seconds = _______ seconds
   e. 23 days 21 hours = __________ hours  
   f. 17 hours 5 minutes = _______ minutes

5. Explain how you solved Problem 4(f).

6. It took a space shuttle 8 minutes, 36 seconds to launch and reach outer space. How many seconds did it take?

7. Apollo 16’s mission lasted just over 1 week, 4 days. How many hours are there in 1 week, 4 days?
Name _________________________________  Date __________________

Use RDW to solve the following problems.

1. Beth is allowed 2 hours of TV time each week. Her sister is allowed 2 times as much. How many minutes of TV can Beth’s sister watch?

2. Clay weighs 9 times as much as his baby sister. Clay weighs 63 pounds. How much does his baby sister weigh in ounces?

3. Helen has 4 yards of rope. Daniel has 4 times as much rope as Helen. How many more feet of rope does Daniel have compared to Helen?
4. A dishwasher uses 11 liters of water for each cycle. A washing machine uses 5 times as much water as a dishwasher uses for each load. Combined, how many milliliters of water are used for 1 cycle of each machine?

5. Joyce bought 2 pounds of apples. She bought 3 times as many pounds of potatoes as pounds of apples. The melons she bought were 10 ounces lighter than the total weight of the potatoes. How many ounces did the melons weigh?
Name _________________________________________  Date _________________

Use RDW to solve the following problem.

1. Brian has a melon that weighs 3 pounds. He cut it into six equal pieces. How many ounces did each piece weigh?
Lesson 4 Homework

Use RDW to solve the following problems.

1. Sandy took the train to New York City. The trip took 3 hours. Jackie took the bus which took twice as long. How many minutes did Jackie’s trip take?

2. Coleton’s puppy weighed 3 pounds 8 ounces at birth. The vet weighed the puppy again at six months and the puppy weighed 7 pounds. How many ounces did the puppy gain?

3. Jessie bought a 2-liter bottle of juice. Her sister drank 650 milliliters. How many milliliters were left in the bottle?
4. Hudson has a chain that is 1 yard in length. Myah’s chain is 3 times as long. How many feet of chain do they have in all?

5. A box weighs 8 ounces. A shipment of boxes weighs 7 pounds. How many boxes are in the shipment?

6. Tracy’s rain barrel has a capacity of 27 quarts of water. Beth’s rain barrel has a capacity of twice the amount of water as Tracy’s rain barrel. Trevor’s rain barrel can hold 9 quarts of water less than Beth’s barrel.
   a. What is the capacity of Trevor’s rain barrel?
   b. If Tracy, Beth, and Trevor’s rain barrels were filled to capacity and they poured all of the water into a 30-gallon bucket, would there be enough room?
### Peer Share and Critique Form

<table>
<thead>
<tr>
<th>Classmate:</th>
<th>Problem Number:</th>
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<td>Strategies my classmate used:</td>
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</tr>
<tr>
<td>Things my classmate did well:</td>
<td></td>
</tr>
<tr>
<td>Suggestions for improvement:</td>
<td></td>
</tr>
<tr>
<td>Changes I would make to my work based on my classmate’s work:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Classmate:</th>
<th>Problem Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategies my classmate used:</td>
<td></td>
</tr>
<tr>
<td>Things my classmate did well:</td>
<td></td>
</tr>
<tr>
<td>Suggestions for improvement:</td>
<td></td>
</tr>
<tr>
<td>Changes I would make to my work based on my classmate’s work:</td>
<td></td>
</tr>
</tbody>
</table>
1. a. Label the rest of the tape diagram below. Solve for the unknown.

\[
\begin{array}{c}
\text{3 feet} \\
\text{?} \\
\text{5 inches}
\end{array}
\]

b. Write a problem of your own that could be solved using the diagram above.

2. Create a problem of your own using the diagram below, and solve for the unknown.

\[
\begin{array}{c}
\text{4 pounds} \\
\text{?} \\
\text{30 ounces}
\end{array}
\]
1. Caitlin ran 1,680 feet on Monday and 2,340 feet on Tuesday. How many yards did she run in those two days?
Name ____________________________________________ Date ________________

Draw a tape diagram to solve the following problems.

1. Timmy drank 2 quarts of water yesterday. He drank twice as much water today as he drank yesterday. How many cups of water did Timmy drink in the two days?

2. Lisa recorded a 2-hour television show. When she watched it, she skipped the commercials. It took her 84 minutes to watch the show. How many minutes did she save by skipping the commercials?

3. Jason bought 2 pounds of cashews. Sarah ate 9 ounces. David ate 2 ounces more than Sarah. How many ounces were left in Jason’s bag of cashews?
4. a. Label the rest of the tape diagram below. Solve for the unknown.

```
5 feet
|
|
|
|
|

? 10 in.
```

b. Write a problem of your own that could be solved using the diagram above.

5. Create a problem of your own using the diagram below, and solve for the unknown.

```
3 pounds
|
|
|
|
|

? 8 ounces
```
Lesson 6: Solve problems involving mixed units of capacity.

Date: 1/31/14

1. Determine the following sums and differences. Show your work.
   a. \(3\text{ qt} + 1\text{ qt} = \text{ ______ gal}\)
   b. \(2\text{ gal 1 qt} + 3\text{ qt} = \text{ ______ gal}\)
   c. \(1\text{ gal} - 1\text{ qt} = \text{ ______ qt}\)
   d. \(5\text{ gal} - 1\text{ qt} = \text{ ______ gal ______ qt}\)
   e. \(2\text{ c} + 2\text{ c} = \text{ ______ qt}\)
   f. \(1\text{ qt 1 pt} + 3\text{ pt} = \text{ ______ qt}\)
   g. \(2\text{ qt} - 3\text{ pt} = \text{ ______ pt}\)
   h. \(5\text{ qt} - 3\text{ c} = \text{ ______ qt ______ c}\)

2. Find the following sums and differences. Show your work.
   a. \(6\text{ gal 3 qt} + 3\text{ qt} = \text{ ______ gal ______ qt}\)
   b. \(10\text{ gal 3 qt} + 3\text{ gal 3 qt} = \text{ ______ gal ______ qt}\)
   c. \(9\text{ gal 1 pt} - 2\text{ pt} = \text{ ______ gal ______ pt}\)
   d. \(7\text{ gal 1 pt} - 2\text{ gal 7 pt} = \text{ ______ gal ______ pt}\)
Lesson 6 Problem Set

3. The capacity of a pitcher is 3 quarts. Right now, it contains 1 quart 3 cups of liquid. How much more liquid can the pitcher hold?

4. Dorothy follows the recipe in the table to make her grandma’s cherry lemonade.
   a. How much lemonade does the recipe make?

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lemon juice</td>
<td>5 pints</td>
</tr>
<tr>
<td>Sugar syrup</td>
<td>2 cups</td>
</tr>
<tr>
<td>Water</td>
<td>1 gallon 1 quart</td>
</tr>
<tr>
<td>Cherry juice</td>
<td>3 quarts</td>
</tr>
</tbody>
</table>

b. How many more cups of water could Dorothy add to the recipe to make an exact number of gallons of lemonade?

e. 16 qt 2 c + 4 c = _______ qt _______ c

f. 6 gal 5 pt + 3 gal 3 pt = _______ gal _______ pt
Lesson 6 Exit Ticket

Name ___________________________________________ Date ________________________

1. Find the following sums and differences. Show your work.
   a. 7 gal 2 qt + 3 gal 3 qt = _______ gal_______ qt

   b. 9 gal 1 qt – 5 gal 3 qt = ______ gal_______ qt

2. Jason poured 1 gallon 1 quart of water into an empty 2-gallon bucket. How much more water can be
   added to reach the bucket’s 2-gallon capacity?
Lesson 6: Solve problems involving mixed units of capacity.

Date: 1/31/14

1. Determine the following sums and differences. Show your work.
   a. \(5 \text{ qt} + 3 \text{ qt} = \) ______ \text{ gal}
   b. \(1 \text{ gal 2 qt} + 2 \text{ qt} = \) ______ \text{ gal}
   c. \(1 \text{ gal} - 3 \text{ qt} = \) ______ \text{ qt}
   d. \(3 \text{ gal} - 2 \text{ qt} = \) ______ \text{ gal}_______ \text{ qt}
   e. \(1 \text{ c} + 3 \text{ c} = \) ______ \text{ qt}
   f. \(2 \text{ qt 3 c} + 5 \text{ c} = \) ______ \text{ qt}
   g. \(1 \text{ qt} - 1 \text{ pt} = \) ______ \text{ pt}
   h. \(6 \text{ qt} - 5 \text{ pt} = \) ______ \text{ qt}_______ \text{ pt}

2. Find the following sums and differences. Show your work.
   a. \(4 \text{ gal 2 qt} + 3 \text{ qt} = \) ______ \text{ gal} ______ \text{ qt}
   b. \(12 \text{ gal 2 qt} + 5 \text{ gal 3 qt} = \) ______ \text{ gal}_______ \text{ qt}
   c. \(7 \text{ gal 2 pt} - 3 \text{ pt} = \) ______ \text{ gal}_______ \text{ pt}
   d. \(11 \text{ gal 3 pt} - 4 \text{ gal 6 pt} = \) ______ \text{ gal}_______ \text{ pt}
   e. \(12 \text{ qt 5 c} + 6 \text{ c} = \) ______ \text{ qt_______ c}
   f. \(8 \text{ gal 6 pt} + 5 \text{ gal 4 pt} = \) ______ \text{ gal_______ pt}
3. The capacity of a bucket is 5 gallons. Right now, it contains 3 gallons 2 quarts of liquid. How much more liquid can the bucket hold?

4. Grace and Joyce follow the recipe in the table to make a homemade bubble solution.
   a. How much solution does the recipe make?

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>2 gallons 3 pints</td>
</tr>
<tr>
<td>Dish Soap</td>
<td>2 quarts 1 cup</td>
</tr>
<tr>
<td>Corn Syrup</td>
<td>2 cups</td>
</tr>
</tbody>
</table>

   b. How many more cups of solution would they need to fill a 4-gallon container?
Lesson 7 Problem Set

Name __________________________ Date __________________

1. Determine the following sums and differences. Show your work.
   a. $1\text{ ft} + 2\text{ ft} = \underline{\hspace{2cm}} \text{yd}$
   b. $3\text{ yd 1 ft} + 2\text{ ft} = \underline{\hspace{2cm}} \text{yd}$
   c. $1\text{ yd} - 1\text{ ft} = \underline{\hspace{2cm}} \text{ft}$
   d. $8\text{ yd} - 1\text{ ft} = \underline{\hspace{2cm}} \text{yd} \underline{\hspace{2cm}} \text{ft}$
   e. $3\text{ in} + 9\text{ in} = \underline{\hspace{2cm}} \text{ft}$
   f. $6\text{ in} + 9\text{ in} = \underline{\hspace{2cm}} \text{ft} \underline{\hspace{2cm}} \text{in}$
   g. $1\text{ ft} - 8\text{ in} = \underline{\hspace{2cm}} \text{in}$
   h. $5\text{ ft} - 8\text{ in} = \underline{\hspace{2cm}} \text{ft} \underline{\hspace{2cm}} \text{in}$

2. Find the following sums and differences. Show your work.
   a. $5\text{ yd 2 ft} + 2\text{ ft} = \underline{\hspace{2cm}} \text{yd} \underline{\hspace{2cm}} \text{ft}$
   b. $7\text{ yd 2 ft} + 2\text{ yd 2 ft} = \underline{\hspace{2cm}} \text{yd} \underline{\hspace{2cm}} \text{ft}$
   c. $4\text{ yd 1 ft} - 2\text{ ft} = \underline{\hspace{2cm}} \text{yd} \underline{\hspace{2cm}} \text{ft}$
   d. $6\text{ yd 1 ft} - 2\text{ yd 2 ft} = \underline{\hspace{2cm}} \text{yd} \underline{\hspace{2cm}} \text{ft}$
   e. $6\text{ ft 9 in} + 4\text{ in} = \underline{\hspace{2cm}} \text{ft} \underline{\hspace{2cm}} \text{in}$
   f. $4\text{ ft 4 in} + 3\text{ ft 11 in} = \underline{\hspace{2cm}} \text{ft} \underline{\hspace{2cm}} \text{in}$
Lesson 7 Problem Set

g. 34 ft 4 in – 8 in = _______ ft _______ in  

h. 7 ft 1 in – 5 ft 10 in = _______ ft _______ in

3. Matthew is 6 feet 2 inches tall. His little cousin Emma is 3 feet 6 inches tall. How much taller is Matthew than Emma?

4. In gym class, Jared climbed 10 feet 4 inches up a rope. Then, he continued to climb up another 3 feet 9 inches. How high did Jared climb?

5. A quadrilateral has a perimeter of 18 feet 2 inches. The sum of three of the sides is 12 feet 4 inches.  
   a. What is the length of the fourth side?

   b. An equilateral triangle has a side length equal to the fourth side of the quadrilateral. What is the perimeter of the triangle?
Lesson 7 Exit Ticket

1. Determine the following sums and differences. Show your work.
   
   a. $4 \text{ yd } 1 \text{ ft} + 2 \text{ ft} = \underline{\hspace{2cm}} \text{ yd}$
   
   b. $6 \text{ yd} - 1 \text{ ft} = \underline{\hspace{2cm}} \text{ yd} \underline{\hspace{2cm}} \text{ ft}$
   
   c. $4 \text{ yd } 1 \text{ ft} + 3 \text{ yd } 2 \text{ ft} = \underline{\hspace{2cm}} \text{ yd}$
   
   d. $8 \text{ yd } 1 \text{ ft} - 3 \text{ yd } 2 \text{ ft} = \underline{\hspace{2cm}} \text{ yd} \underline{\hspace{2cm}} \text{ ft}$
Name ________________________________ Date ____________________

1. Determine the following sums and differences. Show your work.
   a. 2 yd 2 ft + 1 ft = ______ yd
   b. 2 yd – 1 ft = ______ yd____ ft
   c. 2 ft + 2 ft = ______ yd____ ft
   d. 5 yd – 1 ft = ______ yd____ ft
   e. 7 in + 5 in = ______ ft
   f. 7 in + 7 in = ______ ft_______ in
   g. 1 ft – 2 in = _______ in
   h. 2 ft – 6 in = _______ ft_______ in

2. Find the following sums and differences. Show your work.
   a. 4 yd 2 ft + 2 ft = ______ yd_______ ft
   b. 6 yd 2 ft + 1 yd 1 ft = ______ yd_______ ft
   c. 5 yd 1 ft – 2 ft = ______ yd_______ ft
   d. 7 yd 1 ft – 5 yd 2 ft = ______ yd_______ ft
   e. 7 ft 8 in + 5 in = _______ ft_______ in
   f. 6 ft 5 in + 5 ft 9 in = _______ ft_______ in
Lesson 7 Homework

Lesson 7: Solve problems involving mixed units of length.

Date: 1/31/14

3. Laurie bought 9 feet 5 inches of blue ribbon. She also bought 6 feet 4 inches of green ribbon. How much ribbon did she buy altogether?

4. The length of the room is 11 feet 6 inches. The width of the room is 2 feet 9 inches shorter than the length. What is the width of the room?

5. Tim’s bedroom is 12 feet 6 inches wide. The perimeter of the rectangular shaped bedroom is 50 feet.
   a. What is the length of Tim’s bedroom?
   b. How much longer is the length of Tim’s room than the width?
Name __________________________________________  Date _____________________

1. Determine the following sums and differences. Show your work.
   a. 7 oz + 9 oz = _______ lb
   b. 1 lb 5 oz + 11 oz = _______ lb
   c. 1 lb – 13 oz = _______ oz
   d. 12 lb – 4 oz = _______ lb_______ oz
   e. 3 lb 9 oz + 9 oz = ______ lb_______ oz
   f. 30 lb 9 oz + 9 lb 9 oz =______ lb______ oz
   g. 25 lb 2 oz – 14 oz = _____ lb_____ oz
   h. 125 lb 2 oz – 12 lb 3 oz =______ lb______ oz

2. The total weight of Sarah’s and Amanda’s full backpacks is 27 pounds. Sarah’s backpack weighs 15 pounds 9 ounces. How much does Amanda’s backpack weigh?
3. In Emma’s supply box, a pencil weighs 3 ounces. Her scissors weigh 3 ounces more than the pencil, and a bottle of glue weighs three times as much as the scissors. How much does the bottle of glue weigh in pounds and ounces?

4. Use the information in the chart about Jodi’s school supplies to answer the following questions:
   a. On Mondays, Jodi packs only her laptop and supply case into her backpack. How much does her full backpack weigh?
   b. On Tuesdays, Jodi brings her laptop, supply case, two notebooks, and two textbooks in her backpack. On Fridays, Jodi only packs her binder and supply case. How much less does Jodi’s full backpack weigh on Friday than it does on Tuesday?
Lesson 8 Exit Ticket

Name ______________________________  Date ____________________

1. Determine the following sums and differences. Show your work.
   a. 4 lb 6 oz + 10 oz = ______ lb______ oz  
   b. 12 lb 4 oz + 3 lb 14 oz =______ lb______ oz 
   c. 5 lb 4 oz – 12 oz = ______ lb______ oz  
   d. 20 lb 5 oz – 13 lb 7 oz = ______ lb______ oz
Lesson 8: Solve problems involving mixed units of weight.

Date: 1/31/14

1. Determine the following sums and differences. Show your work.
   a. 11 oz + 5 oz = _______ lb
   b. 1 lb 7 oz + 9 oz = _______ lb
   c. 1 lb − 11 oz = _______ oz
   d. 12 lb − 8 oz = _______ lb______ oz
   e. 5 lb 8 oz + 9 oz = _______ lb______ oz
   f. 21 lb 8 oz + 6 lb 9 oz = _______ lb______ oz
   g. 23 lb 1 oz − 15 oz = _______ lb______ oz
   h. 89 lb 2 oz − 16 lb 4 oz = _______ lb______ oz

2. When Dick took his dog, Rocky, to the vet in December, Rocky weighed 29 pounds 9 ounces. When he took Rocky back to the vet in March, Rocky weighed 34 pounds 4 ounces. How much weight did Rocky gain?

3. Bianca had 6 identical jars of bubble bath. She put them all in a bag that weighed 2 ounces. The total weight of the bag filled with the six jars was 1 pound 4 ounces. How much did each jar weigh?
4. Use the information in the chart about Melissa’s school supplies to answer the following questions:

a. On Wednesdays, Melissa packs only two notebooks and a binder into her backpack. How much does her backpack weigh on Wednesdays?

b. On Thursdays, Melissa puts her laptop, supply case, two textbooks, and a notebook in her backpack. How much does her backpack weigh on Thursdays?

c. How much more does the backpack weigh with 3 textbooks and a notebook than it does with just 1 textbook and supply case?
Lesson 9: Solve problems involving mixed units of time.

Name ________________________________ Date __________________

1. Determine the following sums and differences. Show your work.
   a. 23 min + 37 min = ______ hr
   b. 1 hr 11 min + 49 min = ______ hr
   c. 1 hr − 12 min = ______ min
   d. 4 hr − 12 min = ______ hr ______ min
   e. 22 sec + 38 sec = ______ min
   f. 3 min − 45 sec = ______ min ______ sec

2. Find the following sums and differences. Show your work.
   a. 3 hr 45 min + 25 min = ______ hr ______ min
   b. 2 hr 45 min + 6 hr 25 min = ______ hr ______ min
   c. 3 hr 7 min − 42 min = ______ hr ______ min
   d. 5 hr 7 min − 2 hr 13 min = ______ hr ______ min
   e. 5 min 40 sec + 27 sec = ______ min ______ sec
   f. 22 min 48 sec − 5 min 58 sec = ______ min ______ sec
3. At the cup stacking competition, the first place finishing time was 1 minute 52 seconds. That was 31 seconds faster than the second place finisher. What was the second place time?

4. Jackeline and Raychel have 5 hours to watch three movies that last 1 hour, 22 minutes; 2 hours, 12 minutes; and 1 hour, 57 minutes, respectively.
   a. Do the girls have enough time to watch all three movies? Explain why or why not.
   b. If Jackeline and Raychel decide to watch only the two longest movies and take a 30 minute break in between, how much of their 5 hours will they have left over?
Lesson 9 Exit Ticket

NYS COMMON CORE MATHEMATICS CURRICULUM

Lesson 9: Solve problems involving mixed units of time

Name ___________________________ Date __________________

1. Find the following sums and differences. Show your work.

   a. 2 hr 25 min + 25 min = ______hr______min  
   b. 4 hr 45 min + 2 hr 35 min = ______hr______min

   c. 11 hr 6 min – 32 min = ______hr______min  
   d. 8 hr 9 min – 6 hr 42 min = ______hr______min
Lesson 9 Homework

Name ______________________________ Date __________________

1. Determine the following sums and differences. Show your work.
   a. 41 min + 19 min = ______ hr
   b. 2hr 21 min + 39 min = ______ hr
   c. 1 hr – 33 min = ______ min
   d. 3 hr – 33 min = ______ hr_______min
   e. 31 sec + 29 sec = ______ min
   f. 5 min – 15 sec = ______ min________sec

2. Find the following sums and differences. Show your work.
   a. 5 hr 30 min + 35 min = ______hr______min
   b. 3 hr 15 min + 5 hr 55 min = ______hr_____min
   c. 4 hr 4 min – 38 min = ______hr_______min
   d. 7 hr 3 min – 4 hr 25 min = ______hr_______min
   e. 3 min 20 sec + 49 sec = ______min_______sec
   f. 22 min 37 sec – 5 min 58 sec = ____min____sec
3. It took 5 minutes 34 seconds for Melissa’s oven to preheat to 350 degrees. That was 27 seconds slower than it took Ryan’s oven to preheat to the same temperature. How long did it take Ryan’s oven to preheat?

4. Joanna read three books. Her goal was to finish all three books in a total of 7 hours. She completed them, respectively, in 2 hours, 37 minutes; 3 hours, 9 minutes; and 1 hour, 51 minutes.
   a. Did Joanna meet her goal? Write a statement to explain why or why not.
   b. Joanna completed the two shortest books in one evening. How long did she spend reading that evening? How long, with her goal in mind, did that leave her to read the third book?
Use RDW to solve the following problems.

1. Paula’s time swimming in the Ironman Triathlon was 1 hour 25 minutes. Her time biking was 5 hours longer than her swimming time. She ran for 4 hours 50 minutes. How long did it take her to complete all three parts of the race?

2. Nolan put 7 gallons 3 quarts of gas into his car on Monday and twice as much on Saturday. What was the total amount of gas put into the car on both days?
3. One pumpkin weighs 7 pounds 12 ounces. A second pumpkin weighs 10 pounds 4 ounces. A third pumpkin weighs 2 pounds 9 ounces more than the second pumpkin. What is the total weight of all three pumpkins?

4. Mr. Lane is 6 feet 4 inches tall. His daughter, Mary, is 3 feet 8 inches shorter than her father. His son is 9 inches taller than Mary. How many inches taller is Mr. Lane than his son?
Lesson 10: Solve multi-step measurement word problems.

Date: 1/31/14

Use RDW to solve the following problem.

1. Hadley spent 1 hour and 20 minutes completing her math homework, 45 minutes completing her social studies homework, and 30 minutes studying her spelling words. How much time did Hadley spend on homework and studying?
Use RDW to solve the following problems.

1. On Saturday, Jeff used 2 quarts 1 cup of water from a full gallon to replace some water that leaked from his fish tank. On Sunday, he used 3 pints of water from the same gallon. How much water was left in the gallon after Sunday?

2. To make punch, Julia poured 1 quart 8 ounces of ginger ale into a bowl and then added twice as much fruit juice. How much punch did she make in all?

3. Patti went swimming for 1 hour 15 minutes on Monday. On Tuesday, she swam twice as long as she swam on Monday. On Wednesday, she swam 50 minutes less than the time she swam on Tuesday. How much time did she spend swimming during that three day period?
4. Myah is 4 feet 2 inches tall. Her sister, Ally, is 10 inches taller. Their little brother is half as tall as Ally. How tall is their little brother in feet and inches?

5. Rick and Laurie have three dogs. Diesel weighs 89 pounds 12 ounces. Ebony weighs 33 pounds 14 ounces less than Diesel. Luna is the smallest at 10 pounds 2 ounces. What is the combined weight of the three dogs in pounds and ounces?
Lesson 11 Problem Set

Use RDW to solve the following problems.

1. Lauren ran a marathon and finished 1 hour 15 minutes after Amy, who had a time of 2 hours and 20 minutes. Cassie finished 35 minutes after Lauren. How long did it take Cassie to run the marathon?

2. Chef Joe has 8 lb 4 oz of ground beef in his freezer. This is $\frac{1}{3}$ of the amount needed to make the number of burgers he planned for a party. If he uses 4 oz of beef for each burger, how many burgers is he planning to make?
3. Sarah read for 1 hour, 17 minutes each day for 6 days. If she took 3 minutes to read each page, how many pages did she read in 6 days?

4. Grades 3, 4, and 5 have their annual field day together. Each grade level is given 16 gallons of water. If there are a total of 350 students, will there be enough water for each student to have 2 cups?
Lesson 11 Exit Ticket

Name ________________________________ Date ________________

Use RDW to solve the following problems.

1. Judy spent 1 hour and 15 minutes less than Sandy exercising last week. Sandy spent 50 minutes less than Mary, who spent 3 hours at the gym. How long did Judy spend exercising?
Lesson 11: Solve multi-step measurement word problems.

Date: 1/31/14

Name __________________________  Date __________________

Use RDW to solve the following problems.

1. Ashley ran a marathon and finished 1 hour, 40 minutes after P.J., who had a time of 2 hours and 15 minutes. Kerry finished 12 minutes before Ashley. How long did it take Kerry to run the marathon?

2. Mr. Foote’s deck is 12 ft 6 in wide. Its length is twice the width plus 3 more inches. How long is the deck?

3. Mrs. Lorentz bought 12 pounds 8 ounces of flour. This is \( \frac{1}{4} \) of the flour she will use to make sugar cookies in her bakery this week. If she uses 5 ounces of flour for each batch of sugar cookies, how many batches of sugar cookies will she make in a week?
4. Beth Ann practiced piano for 1 hour, 5 minutes each day for 1 week. She had 5 songs to practice and spent the same amount of time practicing each song. How long did she practice each song during the week?

5. The concession stand has 18 gallons of punch. If there are a total of 240 students who want to purchase 1 cup of punch each, will there be enough punch for everyone?
Name _________________________________ Date ______________________

1. Draw a tape diagram to show 1 yard divided into 3 equal parts.
   a. \( \frac{1}{3} \) yd = _______ ft
   b. \( \frac{2}{3} \) yd = _______ ft
   c. \( \frac{3}{3} \) yd = _______ ft

2. Draw a tape diagram to show \( 2 \frac{2}{3} \) yards = 8 feet.

3. Draw a tape diagram to show \( 3 \frac{3}{4} \) gallon = 3 quarts.

4. Draw a tape diagram to show \( 3 \frac{3}{4} \) gallons = 15 quarts.

5. Solve the problems using whatever tool works best for you.
   a. \( \frac{1}{12} \) ft = _______ in
   b. \( \frac{1}{12} \) ft = \( \frac{1}{2} \) ft = _______ in
   c. \( \frac{1}{12} \) ft = \( \frac{1}{4} \) ft = _______ in
Lesson 12 Problem Set

Use measurement tools to convert mixed number measurements to smaller units.


<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>a. $1 \frac{1}{3}$ yd = _______ ft</td>
<td>b. $4 \frac{2}{3}$ yd = _______ ft</td>
</tr>
<tr>
<td>c. $2 \frac{1}{2}$ gal = _______ qt</td>
<td>d. $7 \frac{3}{4}$ gal = _______ qt</td>
</tr>
<tr>
<td>e. $1 \frac{1}{2}$ ft = _______ in</td>
<td>f. $6 \frac{1}{2}$ ft = _______ in</td>
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<tr>
<td>g. $1 \frac{1}{4}$ ft = _______ in</td>
<td>h. $6 \frac{1}{4}$ ft = _______ in</td>
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</tbody>
</table>
Lesson 12 Exit Ticket

Name __________________________ Date ________________

1. Solve the problems using whatever tool works best for you.
   a. \( \frac{11}{12} \text{ ft} = \frac{1}{2} \text{ ft} = \underline{\text{_______}} \text{ in} \)
   b. \( \frac{11}{12} \text{ ft} = \frac{3}{4} \text{ ft} = \underline{\text{_______}} \text{ in} \)

2. Solve.
   a. \( 1 \frac{1}{3} \text{ yd} = \underline{\text{_______}} \text{ ft} \)
   b. \( 5 \frac{3}{4} \text{ gal} = \underline{\text{_______}} \text{ qt} \)
Lesson 12 Homework

Name __________________________ Date __________________

1. Draw a tape diagram to show $1\frac{1}{3}$ yards = 4 feet.

2. Draw a tape diagram to show $\frac{1}{2}$ gallon = 2 quarts.

3. Draw a tape diagram to show $1\frac{3}{4}$ gallons = 7 quarts.

4. Solve the problems using whatever tool works best for you.
   
   a. $\frac{1}{2}$ foot = _______ inches
   
   b. $\frac{1}{12}$ foot = $\frac{1}{4}$ foot = _______ inches
   
   c. $\frac{1}{12}$ foot = $\frac{1}{6}$ foot = _______ inches
   
   d. $\frac{1}{12}$ foot = $\frac{1}{3}$ foot = _______ inches
   
   e. $\frac{1}{12}$ foot = $\frac{2}{3}$ foot = _______ inches
   
   f. $\frac{1}{12}$ foot = $\frac{5}{6}$ foot = _______ inches
5. Solve.

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<tbody>
<tr>
<td>a.</td>
<td>$2\frac{2}{3}$ yd = _____ ft</td>
<td>b. $3\frac{1}{3}$ yd = _____ ft</td>
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<tr>
<td>c.</td>
<td>$3\frac{1}{2}$ gal = _____ qt</td>
<td>d. $5\frac{1}{4}$ gal = _____ qt</td>
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<tr>
<td>e.</td>
<td>$6\frac{1}{4}$ ft = _____ in</td>
<td>f. $7\frac{1}{3}$ ft = _____ in</td>
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<tr>
<td>g.</td>
<td>$2\frac{1}{2}$ ft = _____ in</td>
<td>h. $5\frac{3}{4}$ ft = _____ in</td>
</tr>
<tr>
<td>i.</td>
<td>$9\frac{2}{3}$ ft = _____ in</td>
<td>j. $7\frac{5}{6}$ ft = _____ in</td>
</tr>
</tbody>
</table>
Lesson 13: Use measurement tools to convert mixed number measurements to smaller units.

Date: 1/31/14

1. Solve.
   a. \( \frac{1}{16} \) pound = _______ ounce
   b. \( \frac{1}{2} \) pound = _______ ounces
   c. \( \frac{1}{4} \) pound = _______ ounces
   d. \( \frac{3}{4} \) pound = _______ ounces
   e. \( \frac{1}{8} \) pound = _______ ounces
   f. \( \frac{3}{8} \) pound = _______ ounces

2. Draw a tape diagram to show \( 2 \frac{1}{2} \) pounds = 40 ounces

3. Draw a tape diagram to show that \( 1 \frac{1}{2} \) hours = 90 minutes.
   a. \( \frac{1}{60} \) hour = _______ minute
   b. \( \frac{1}{2} \) hour = _______ minutes
   c. \( \frac{1}{4} \) hour = _______ minutes

4. Draw a tape diagram to show that \( 1 \frac{1}{2} \) hours = 90 minutes.
5. Solve.

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<tbody>
<tr>
<td>a. $1\frac{1}{8}$ pounds = _______ ounces</td>
<td>b. $3\frac{3}{8}$ pounds = _______ ounces</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>c. $5\frac{3}{4}$ lb = _______ oz</td>
<td>d. $5\frac{1}{2}$ lb = _______ oz</td>
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<td></td>
</tr>
<tr>
<td>e. $1\frac{1}{4}$ hours = _______ minutes</td>
<td>f. $3\frac{1}{2}$ hours = _______ minutes</td>
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<tr>
<td>g. $2\frac{1}{4}$ hr = _______ min</td>
<td>h. $5\frac{1}{2}$ hr = _______ min</td>
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</tr>
<tr>
<td>i. $3\frac{1}{3}$ yards = _______ feet</td>
<td>j. $7\frac{2}{3}$ yd = _______ ft</td>
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<tr>
<td>k. $4\frac{1}{2}$ gallons = _______ quarts</td>
<td>l. $6\frac{3}{4}$ gal = _______ qt</td>
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<tr>
<td>m. $5\frac{3}{4}$ feet = _______ inches</td>
<td>n. $8\frac{1}{3}$ ft = _______ in</td>
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</table>
Name ___________________________________________ Date ____________________

1. Draw a tape diagram to show that $4\frac{3}{4}$ gallons = 19 quarts.

2. Solve.

<table>
<thead>
<tr>
<th>a. $1\frac{1}{4}$ pounds = _______ ounces</th>
<th>b. $2\frac{3}{4}$ hr = _______ min</th>
</tr>
</thead>
<tbody>
<tr>
<td>c. $5\frac{1}{2}$ feet = _______ inches</td>
<td>d. $3\frac{5}{6}$ ft = _______ in</td>
</tr>
</tbody>
</table>
Lesson 13 Homework

Name ________________________________ Date __________________

1. Solve.
   a. \( \frac{1}{16} \) pound = _______ ounce
   b. \( \frac{1}{16} \) pound = \( \frac{1}{2} \) pound = _______ ounces
   c. \( \frac{1}{16} \) pound = \( \frac{1}{4} \) pound = _______ ounces
   d. \( \frac{1}{16} \) pound = \( \frac{3}{4} \) pound = _______ ounces
   e. \( \frac{1}{16} \) pound = \( \frac{1}{8} \) pound = _______ ounces
   f. \( \frac{1}{16} \) pound = \( \frac{5}{8} \) pound = _______ ounces

2. Draw a tape diagram to show 1\( \frac{1}{4} \) pounds = 20 ounces

3. Solve.

   1 hour

   
   minutes

   0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

   a. \( \frac{1}{60} \) hour = _______ minute
   b. \( \frac{1}{60} \) hour = \( \frac{1}{2} \) hour = _______ minutes
   c. \( \frac{1}{60} \) hour = \( \frac{1}{4} \) hour = _______ minutes
   d. \( \frac{1}{60} \) hour = \( \frac{1}{3} \) hour = _______ minutes

4. Draw a tape diagram to show that 2\( \frac{1}{4} \) hours = 135 minutes.
5. Solve.

| a. $2 \frac{1}{4}$ pounds = _______ ounces | b. $4 \frac{7}{8}$ pounds = _______ ounces |
| c. $6 \frac{3}{4}$ lb = _______ oz | d. $4 \frac{1}{8}$ lb = _______ oz |
| e. $1 \frac{3}{4}$ hours = _______ minutes | f. $4 \frac{1}{2}$ hours = _______ minutes |
| g. $3 \frac{3}{4}$ hr = _______ min | h. $5 \frac{1}{3}$ hr = _______ min |
| i. $4 \frac{2}{3}$ yards = _______ feet | j. $6 \frac{1}{3}$ yd = _______ ft |
| k. $4 \frac{1}{4}$ gallons = _______ quarts | l. $2 \frac{3}{4}$ gal = _______ qt |
| m. $6 \frac{1}{4}$ feet = _______ inches | n. $9 \frac{5}{6}$ ft = _______ in |
Use RDW to solve the following problems.

1. A cartoon lasts $\frac{1}{2}$ hour. A movie is 6 times as long as the cartoon. How many minutes does it take to watch both the cartoon and the movie?

2. A large bench is $7\frac{1}{6}$ feet long. It is 17 inches longer than a shorter bench. How many inches long is the shorter bench?

3. The first container holds 4 gallons, 2 quarts of juice. The second container can hold $1\frac{3}{4}$ gallons more than the first container. Altogether, how much juice can the two containers hold?
Lesson 14 Problem Set

4. A girl’s height is \(3\frac{1}{3}\) feet. A giraffe’s height is 3 times that of the girl. How many inches taller is the giraffe than the girl?

5. Five ounces of pretzels are put into each bag. How many bags can be made from \(22\frac{3}{4}\) pounds of pretzels?

6. Twenty servings of pancakes require 15 ounces of pancake mix.
   a. How much pancake mix is needed for 120 servings?

Bonus: The mix is bought in \(2\frac{1}{2}\) pound bags. How many bags will be needed to make 120 servings?
Name ___________________________ Date ______________________

Use RDW to solve the following problems.

1. It took Gigi 1 hour and 20 minutes to complete a bicycle race. It took Johnny twice as long because he got a flat tire. How many minutes did it take Johnny to finish the race?
Name __________________________________________________________________________ Date ____________________

Use RDW to solve the following problems.

1. Molly baked a pie for 1 hour and 45 minutes. Then, she baked banana bread for 35 minutes less than the pie. How many minutes did it take to bake the pie and the bread?

2. A slide on the playground is $12 \frac{1}{2}$ feet long. It is 3 feet 7 inches longer than the small slide. How long is the small slide?

3. The fish tank holds 8 gallons 2 quarts of water. Jeffrey poured $1 \frac{3}{4}$ gallons into the empty tank. How much more water does he still need to pour into the tank to fill it?
4. The candy shop puts 10 ounces of gummy bears in each box. How many boxes do they need to fill if there are \(21 \frac{1}{4}\) pounds of gummy bears?

5. Mom can make 10 brownies from a 12 ounce package.
   a. How many ounces of brownie mix would be needed to make 50 brownies?

   Bonus: The brownie mix is also sold in \(1 \frac{1}{2}\) pound bags. How many bags would be needed to make 120 brownies?
1. Solve for the following conversions. Draw tape diagrams to model the equivalency.
   a. 1 gal = _____ qt    b. 3 qt 1 pt = _____ pt

2. Complete the following tables:
   a. | Pounds | Ounces |
      | 1      |        |
      | 2      |        |
      | 6      |        |
      | 10     |        |
      | 13     |        |
   b. | Hours  | Minutes|
      | 1      |        |
      | 3      |        |
      | 7      |        |
      | 10     |        |
      | 14     |        |

   The rule for converting pounds to ounces is ________________________________.
   The rule for converting hours to minutes is ________________________________.

3. Answer “true” or “false” for the following statements. Explain how you know using pictures, numbers, or words.
   a. 68 ounces < 4 pounds
   b. 920 minutes > 17 hours
   c. 38 inches = 3 feet 2 inches
4. Convert the following measurements.
   a. Express the length of a 9 kilometer trip in meters. _______________
   b. Express the capacity of a 3 liter 240 milliliter container in milliliters. ______________
   c. Express the length of a 3 foot 5 inch fish in inches. _______________
   d. Express the length of a 2 1/4 hour movie in minutes. _______________
   e. Express the weight of a 24 3/8 pound wolverine in ounces. ______________

5. Find the following sums and differences. Show your work.
   a. 4 gal 2 qt + 5 gal 3 qt = _______ gal _______ qt
   b. 6 ft 2 in – 9 inches = _______ ft _______ in
   c. 3 min 34 sec + 7 min 46 sec = _______ min _______ sec
   d. 24 lb 9 oz – 3 lb 11 oz = _______ lb _______ oz
6.

a. Complete the table.

<table>
<thead>
<tr>
<th>Length</th>
<th>inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>yards</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

b. Describe the rule for converting yards to inches.

c. How many inches are in 15 yards?

d. Jacob says that he can find the number of inches in 15 yards by tripling the number of inches in 5 yards. Does his strategy work? Why or why not?

e. A blue rope in Garret’s camping backpack is 6 yards long. The blue rope is 3 times as long as a red rope. A yellow rope is 2 feet 7 inches shorter than the red rope. What is the difference in length between the blue rope and the yellow rope?
Lesson 15 Problem Set

Name ________________________________ Date __________________

1. Emma’s rectangular bedroom is 11 ft long and 12 ft wide with an attached closet that is 4 ft by 5 ft. How many square feet of carpet does Emma need to cover both the bedroom and closet?

2. To save money, Emma is no longer going to carpet her closet. In addition, she wants one 3 ft by 6 ft corner of her bedroom to be wood floor. How many square feet of carpet will she need for the bedroom now?
3. Find the area of the figure pictured to the right.

\[ \text{Area} = 20 \times 15 + 12 \times 5 = 300 + 60 = 360 \text{ square feet} \]

4. Label the sides of the figure below with measurements that make sense. Find the area of the figure.

\[ \text{Area} = 76 \times 9 = 684 \text{ square units} \]
5. Peterkin Park has a square fountain with a walkway around it. The fountain measures 12 feet on each side. The walkway is $3\frac{1}{2}$ feet wide. Find the area of the walkway.

6. If 1 bag of gravel covers 9 square feet, how many bags of gravel will be needed to cover the entire walkway around the fountain in Peterkin Park?
Name ________________________________  Date __________________

In the table below are topics that you learned in Grade 4 and that were used in today’s lesson. Choose 1 topic, and describe how you were successful in using it today.

<table>
<thead>
<tr>
<th>2-digit by 2-digit multiplication</th>
<th>Area Formula</th>
<th>Division of 3-digit number by a 1-digit number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subtraction of multi-digit numbers</td>
<td>Addition of multi-digit numbers</td>
<td>Solving multi-step word problems</td>
</tr>
</tbody>
</table>

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Lesson 15 Homework

Name ___________________________________________ Date __________________

For homework, complete the top portion of each page. This will become an answer key for you to refer to when completing the bottom portion as a mini-board activity during the summer.

Find the area of the figure that is shaded.

1.  

2.  

Challenge: Replace the given dimensions with different measurements and solve again.

Find the area of the figure that is shaded.

1.  

2.  

Challenge: Replace the given dimensions with different measurements and solve again.
3. A wall is 8 feet tall and 19 feet wide. An opening 7 feet tall and 8 feet wide was cut into the wall for a doorway. Find the area of the remaining portion of the wall.
Lesson 16 Problem Set

Name ____________________________ Date ______________

Work with your partner to create each floor plan as described below on a separate piece of paper.

You should use a protractor and a ruler to create each floor plan and be sure each rectangle you create has two sets of parallel lines and four right angles.

Be sure to label each part of your model with the correct measurement.

1. The bedroom in Samantha’s dollhouse is a rectangle 26 centimeters long and 15 centimeters wide. It has a rectangular bed that is 9 centimeters long and 6 centimeters wide. The two dressers in the room are each 2 centimeters wide. One measures 7 centimeters long, and the other measures 4 centimeters long. Create a floor plan of the bedroom containing the bed and dressers. Find the area of the open floor space in the bedroom after the furniture is in place.

2. A model of a rectangular pool is 15 centimeters long and 10 centimeters wide. The walkway around the pool is 5 centimeters wider than the pool on each of the four sides. In one section of the walkway, there is a flowerbed that is 3 centimeters by 5 centimeters. Create a diagram of the pool area with the surrounding walkway and flowerbed. Find the area of the open walkway around the pool.
In the table below are skills that you learned in Grade 4 and that you used to complete today’s lesson. These skills were originally introduced in earlier grades, and you will continue to work on them as you go on to later grades. Choose three topics from the chart and explain how you think you might build on and use them in Grade 5.

<table>
<thead>
<tr>
<th>Multiply 2-digit by 2-digit numbers</th>
<th>Use the Area Formula to find the area of composite figures</th>
<th>Create composite figures from a set of specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subtract multi-digit numbers</td>
<td>Add multi-digit numbers</td>
<td>Solve multi-step word problems</td>
</tr>
<tr>
<td>Construct parallel and perpendicular lines</td>
<td>Measure and Construct 90° angles</td>
<td>Measure in centimeters</td>
</tr>
</tbody>
</table>
Lesson 16 Homework

Name ___________________________________________ Date __________________

For homework, complete the top portion of each page. This will become an answer key for you to refer to when completing the bottom portion as a mini-personal board activity during the summer.

Use a ruler and protractor to create and shade a figure according to the directions. Then find the area of the unshaded part of the figure.

1. Draw a rectangle that is 18 cm long and 6 cm wide. Inside the rectangle, draw a smaller rectangle that is 8 cm long and 4 cm wide. Inside the smaller rectangle, draw a square that has a side length of 3 cm. Shade in the smaller rectangle, but leave the square unshaded. Find the area of the shaded space.

1. Draw a rectangle that is 18 cm long and 6 cm wide. Inside the rectangle, draw a smaller rectangle that is 8 cm long and 4 cm wide. Inside the smaller rectangle, draw a square that has a side length of 3 cm. Shade in the smaller rectangle, but leave the square unshaded. Find the area of the shaded space.
2. Emanuel’s science project display board is 42 inches long and 48 inches wide. He put a 6-inch border around the edge inside the board and placed a title near the top that is 22 inches long and 6 inches wide. How many square inches of open space does Emanuel have left on his board?

Challenge: Replace the given dimensions with different measurements and solve again.
Lesson 16: Create and determine the area of composite figures.

Date: 1/31/14
Lesson 16:
Create and determine the area of composite figures.

Date: 1/31/14

7.D.27
Convert Units: Teacher Card

Materials: (S) Mini-personal boards

T: (Write 1 m 20 cm = ____ cm.)
   1 m 20 cm is how many centimeters?
S: 120 centimeters.

Repeat the process with this sequence:

1 m 80 cm = 180 cm
3 km 249 m = 3,249 m
4 L 71 mL = 4,071 mL
2 kg 5 g = 2,005 g

Add Large Numbers: Teacher Card

Materials: (S) Mini-personal boards

T: (Write 747 thousands 585 ones.)
   On your boards, write this number in standard form.
S: (Write 747,585.)
T: (Write 242 thousands 819 ones.)
   Add this number to 747,585 using the standard algorithm.
S: (Write 747,585 + 242,819 = 990,404 using the standard algorithm.)

Continue the process with this sequence:

528,649 + 247,922 = 776,571
348,587 + 629,357 = 977,944
426,099 + 397,183 = 823,282.

New Problem

T: (Write ___________ = __________.)
   __________is how many __________?
S: ________________.

New Problem

T: (Write ___________ = __________.)
   On your boards, write this number in standard form.
S: ________________.

T: (Write ___________ = __________.)
   Add this number to ________________ using the standard algorithm.
S: ________________ using the standard algorithm.)
Lesson 17 Problem Set

Subtract Large Numbers: Teacher Card

Materials: (S) Mini-personal boards

T: (Write 600 thousands.) On your boards, write this number in standard form.
S: (Write 600,000.)
T: (Write 545 thousands 543 ones.) Subtract this number from 600,000 using the standard algorithm.
S: (Write 600,000 – 545,543 = 54,457 using the standard algorithm.)

Continue the process with this sequence:
400,000 – 251,559 = 148,441
700,000 – 385,476 = 314,524
600,024 – 197,088 = 402,936.

New Problem

T: (Write _______ thousands.) On your boards, write this number in standard form.
S: (Write __________________.)
T: (Write _______ thousands ________ones.) Subtract this number from __________ using the standard algorithm.
S: (___________ – __________ = __________ using the standard algorithm.)

Multiply Mentally: Teacher Card

Materials: (S) Mini-personal boards

T: (Write 32 × 3 = ____.) Say the multiplication sentence.
S: 32 × 3 = 96.
T: (Write 32 × 20 = ____.) Say the multiplication sentence.
S: 32 × 20 = 640.
T: (Write 32 × 23 = ____.) On your board, solve 32 × 23.
S: (Write 32 × 23 = 736.)
Repeat the process with this sequence:
42 × 2 = 84, 42 × 20 = 840, 42 × 22 = 924
31 × 4 = 124, 31 × 40 = 1,240, 31 × 44 = 1,364.

New Problem

T: (Write _____ × _____ = ____.) Say the multiplication sentence.
S: _____ × _____ = _____
T: (Write _____ × _____ = ____.) Below it, write _____ × _____ = _____.
S: _____ × _____ = _____.
T: (Write _____ × _____ = ____.) On your board, solve _____ × _____.
S: (Write _____ × _____ = ____.)
Divide Mentally: Teacher Card

Materials: (S) Mini-personal boards

T: (Write 40 ÷ 2.) Write the division sentence in unit form.
S: 4 tens ÷ 2 = 2 tens.

T: (To the right, write 8 ÷ 2.) Write the division sentence in unit form.
S: 8 ones ÷ 2 = 4 ones.

T: (Write 48 ÷ 2.) Write the complete division sentence in unit form.
S: 4 tens 8 ones ÷ 2 = 2 tens 4 ones.

T: Say the division sentence.

Continue the process with this sequence:
93 ÷ 3 = 31
88 ÷ 4 = 22
186 ÷ 6 = 24.

New Problem

T: (Write ____________.) Write the division sentence in unit form.
S: _____ tens ÷ _____ = _____ tens.

T: (To the right, write _____ ÷ _____.) Write the division sentence in unit form.
S: _____ ones ÷ _____ = _____ ones.

T: (Write ____________.) Write the complete division sentence in unit form.
S: _____ tens _____ ones ÷ _____ = _____ tens _____ ones.

T: Say the division sentence.
S: _____ ÷ _____ = _____.

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Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License.
State the Value of a Set of Coins: Teacher Card

Materials: (S) Mini-personal board

T: (Draw 2 quarters and 4 dimes as number disks labeled 25¢ and 10¢.) What's the value of 2 quarters and 4 dimes?
S: 90¢.
T: Write 90 cents as a fraction of a dollar.
S: (Write $\frac{90}{100}$ dollar.)
T: Write 90 cents in decimal form using the dollar sign.
S: (Write $0.90$.)

Continue the process with this sequence:
1 quarter 9 dimes 12 pennies = 127¢, $\frac{127}{100}$ dollar, $1.27$
3 quarters 5 dimes 20 pennies = 145¢, $\frac{145}{100}$ dollar, $1.45$

New Problems

T: (Draw _____ quarters and _____ dimes as number disks.) What's the value of ____________________________?
S: ________________.
T: Write _______ cents as a fraction of a dollar.
S: (Write _______ dollar.)
T: Write _______ cents in decimal form using the dollar sign.
S: (Write $_______$.)

Break Apart 180°: Teacher Card

Materials: (S) Mini-personal boards, protractors, straightedge

T: (Project a number bond with a whole of 180°. Fill in 80° for one of the parts.) On your boards, complete the number bond, filling in the unknown part.
S: (Draw a number bond with a whole of 180°, and 80° and 100° as parts.)
T: Use your protractor to draw the pair of angles.
S: (Draw and label the two angles that make 180°.)

Continue the process for
120° + 60° = 180°
35° + 145° = 180°

New Problems

T: (Project a number bond with a whole of 180°. Fill in _______° for one of the parts.) On your boards, complete the number bond, filling in the unknown part.
S: (Draw a number bond with a whole of 180°, and _______° and _______° as parts.)
T: Use your protractor to draw the pair of angles.
S: (Draw and label the two angles that make 180°.)
Lesson 17 Reflection

Name ________________________________ Date __________________

1. What are you able to do now in math that you were not able to do at the beginning of Grade 4?

2. Which activities would you like to practice this summer in order to keep fluent or become more fluent?

3. What type of practice would help you build your fluency with these concepts?
Name _________________________________  Date ____________________

Decimal Fraction Review: Plot each point on the number line below and complete the chart. Only solve the portion above the dotted line.

<table>
<thead>
<tr>
<th>Point</th>
<th>Unit Form</th>
<th>Decimal Form</th>
<th>Mixed Number (ones and fraction form)</th>
<th>How much more to get to the next whole number?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2 ones and 9 tenths</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>4.4</td>
<td></td>
<td>4 4/10</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td>2/10 or 0.2</td>
</tr>
</tbody>
</table>

Complete the chart. Create your own problem for B and plot the point.

<table>
<thead>
<tr>
<th>Point</th>
<th>Unit Form</th>
<th>Decimal Form</th>
<th>Mixed Number (ones and fraction form)</th>
<th>How much more to get to the next whole number?</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2 ones and 9 tenths</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Complete the chart. The first one has been done for you. Only solve the top portion above the dotted line.

<table>
<thead>
<tr>
<th>Decimal</th>
<th>Mixed Number</th>
<th>Tenths</th>
<th>Hundredths</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2</td>
<td>3 2/10</td>
<td>32 tenths or 32/10</td>
<td>320 hundredths or 320/100</td>
</tr>
<tr>
<td>8.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Complete the chart. Create your own problem in the last row.

<table>
<thead>
<tr>
<th>Decimal</th>
<th>Mixed Number</th>
<th>Tenths</th>
<th>Hundredths</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lesson 18: Practice and solidify Grade 4 vocabulary

**Lesson 18 Game Descriptions**

**Bingo:**
1. Players write a vocabulary term in each box of the math bingo game template. Each term should be used only once. The box that says *Math Bingo* is a free space.
2. Players place the filled-in math bingo template in their mini-boards.
3. One person is the caller and reads the definition on a vocabulary card.
4. Players cross off (or cover) the term that matches the definition.
5. *Bingo!* is called when 5 vocabulary terms in a row are crossed off diagonally, vertically, or horizontally. The free space counts as 1 box towards the needed 5 vocabulary terms.
6. The first player to have 5 in a row reads each crossed off word, states the definition, and gives a description or an example of each word. If all words are reasonably explained as determined by the caller, the player is declared the winner.

**Math Pictionary:**
1. A timer is set for 1 minute.
2. A vocabulary term is chosen from a bag by a player from Team 1, who draws an example as quickly as possible.
3. The player’s teammate(s) try to guess the vocabulary term. When the term is guessed, a new term is chosen by the same player. The process is repeated as many times as possible within the minute. Terms not guessed when the timer sounds go back in the bag.
4. A player from Team 2 repeats the process.
5. Teams count the number of words guessed. The team with the most words is the winner.

**Concentration:**
Structure: Teams or partnerships.
1. Create an array of all the cards face down.
2. Players take turns flipping over pairs of cards to find a match. A match is a vocabulary term and its definition. Cards keep their precise location in the array if not matched. Remaining cards are not reconfigured into a new array.
3. After all cards are matched, the player with the most pairs is the winner.

**Math Jeopardy:**
1. The definitions are sorted into labeled columns by a caller: units, lines and angles, the four operations, and geometric shapes.
2. The first term directly below the heading has a value of $100$, the next $200$, and so on. The caller should make an effort to order the questions from easiest to hardest.
3. Player 1 chooses a column and a dollar value, for example, “I choose geometry terms for $100.” The caller reads, “The answer is....”
4. The players write the matching question, for example, “What is a quadrilateral?”
5. The first person to correctly state the question wins the dollar value for that card.
6. Play continues until all cards are used.
7. The player with the most dollar value wins.

**Math Jeopardy:**
1. The definitions are sorted into labeled columns by a caller: units, lines and angles, the four operations, and geometric shapes.
2. The first term directly below the heading has a value of $100$, the next $200$, and so on. The caller should make an effort to order the questions from easiest to hardest.
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5. The first person to correctly state the question wins the dollar value for that card.
6. Play continues until all cards are used.
7. The player with the most dollar value wins.
Lesson 18 Bingo Template

Math BINGO!

Math BINGO!
<table>
<thead>
<tr>
<th><strong>A metric unit of measure equivalent to 1,000 grams.</strong></th>
<th><strong>A whole number greater than 1 whose only factors are 1 and itself.</strong></th>
<th><strong>An angle measuring less than 90 degrees.</strong></th>
<th><strong>Lines that intersect at 90-degree angles.</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A whole number plus a fraction.</strong></td>
<td><strong>An angle that turns through ( \frac{1}{360} ) of a circle.</strong></td>
<td><strong>The bottom number in a fraction that tells the number of equal parts in the whole.</strong></td>
<td><strong>A customary unit of measurement for liquid volume equivalent to 4 quarts.</strong></td>
</tr>
<tr>
<td><strong>A customary unit of measurement for liquid volume equivalent to 2 pints.</strong></td>
<td><strong>The answer to a multiplication problem.</strong></td>
<td><strong>The answer to a division problem.</strong></td>
<td><strong>A line through a figure such that when the figure is folded along an imaginary line, two halves are created that match up exactly.</strong></td>
</tr>
<tr>
<td><strong>Two lines in a plane that never intersect.</strong></td>
<td><strong>A triangle with at least two equal sides.</strong></td>
<td><strong>A whole number having three or more distinct factors.</strong></td>
<td><strong>A closed figure with 4 straight sides and 4 angles.</strong></td>
</tr>
<tr>
<td><strong>An angle measuring 90 degrees.</strong></td>
<td><strong>An angle with a measure greater than 90 degrees but less than 180 degrees.</strong></td>
<td><strong>Lines that contain at least 1 point in common.</strong></td>
<td><strong>A tool used to measure and draw angles.</strong></td>
</tr>
<tr>
<td><strong>The top number in a fraction that tells how many parts of the whole are selected.</strong></td>
<td><strong>A triangle that contains one 90-degree angle.</strong></td>
<td><strong>This special angle measures 180 degrees.</strong></td>
<td><strong>A closed figure with 3 straight sides of equal length and 3 equal angles.</strong></td>
</tr>
<tr>
<td>Kilogram</td>
<td>Prime Number</td>
<td>Acute Angle</td>
<td>Perpendicular Lines</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------</td>
<td>----------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Mixed Number</td>
<td>One-Degree Angle</td>
<td>Denominator</td>
<td>Gallon</td>
</tr>
<tr>
<td>Quart</td>
<td>Product</td>
<td>Quotient and Remainder</td>
<td>Line of Symmetry</td>
</tr>
<tr>
<td>Parallel Lines</td>
<td>Isosceles Triangle</td>
<td>Composite Number</td>
<td>Quadrilateral</td>
</tr>
<tr>
<td>Right Angle</td>
<td>Obtuse Angle</td>
<td>Intersecting Lines</td>
<td>Protractor</td>
</tr>
<tr>
<td>Numerator</td>
<td>Right Triangle</td>
<td>Straight Angle</td>
<td>Equilateral Triangle</td>
</tr>
</tbody>
</table>
Lesson 18 Reflection

Name ____________________________  Date ________________

1. Why do you think vocabulary was such an important part of fourth-grade math? How does vocabulary help you in math?

2. Which vocabulary terms do you know well, and which would you like to improve upon?
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