Measuring Worksheet 3

Convert the measuring units as indicated.

1a. **72 in = _____ ft**

2a. **11 ft = _____ in**

3a. **11 yd = _____ ft**

4a. **30 ft = _____ yd**

ia. 96 in = _____ ft

i. 3 yd = _____ ft

6 ft = _____ yd

9 ft = _____ in

4 yd = _____ ft

15 ft = _____ yd

1b. **12 in = _____ ft**

2b. **3 ft = _____ in**

3b. **12 yd = _____ ft**

4b. **120 in = _____ ft**

5b. **24 ft = _____ yd**

6b. **7 ft = _____ in**

7b. **5 ft = _____ in**

8b. **4 ft = _____ in**

9b. **2 ft = _____ in**

10b. **12 ft = _____ in**

Answer Key

Measuring Worksheet 9

Convert the measuring units as indicated.

1a. **5 mi = _____ yd**

1b. **5280 ft = _____ mi**

2a. **3520 yd = _____ mi**

2b. **15840 ft = _____ mi**

3a. **10560 ft = _____ mi**

3b. **1 mi = _____ yd**

4a. **21120 ft = _____ mi**

4b. **26400 ft = _____ mi**

5a. **3 mi = _____ yd**

5b. **7040 yd = _____ mi**

6a. **5280 ft = _____ mi**

6b. **15840 ft = _____ mi**

7a. **21120 ft = _____ mi**

7b. **5 mi = _____ ft**

8a. **5 mi = _____ ft**

8b. **1760 yd = _____ mi**

9a. **1 mi = _____ ft**

9b. **1 mi = _____ ft**

10a. **3 mi = _____ yd**

10b. **7040 yd = _____ mi**

Answer Key

Measuring Worksheet 12

Convert the measuring units as indicated.

1a. **4 lb = _____ oz**

1b. **8 T = _____ lb**

2a. **1 T = _____ lb**

2b. **144 oz = _____ lb**

3a. **3 lb = _____ oz**

3b. **4 T = _____ lb**

4a. **9 T = _____ lb**

4b. **7 T = _____ lb**

5a. **3 T = _____ lb**

5b. **7 lb = _____ oz**

6a. **10 lb = _____ oz**

6b. **1 lb = _____ oz**

7a. **12000 lb = _____ T**

7b. **20000 lb = _____ T**

8a. **96 oz = _____ lb**

8b. **128 oz = _____ lb**

9a. **5 lb = _____ oz**

9b. **2 T = _____ lb**

10a. **10000 lb = _____ T**

10b. **32 oz = _____ lb**

Answer Key

Measuring Worksheet 13

Convert the measuring units as indicated.

1a. **3 lb 6 oz = _____ oz**

1b. **4 lb 8 oz = _____ oz**

2a. **5400 lb = _____ T _____ lb**

2b. **0 lb 14 oz = _____ oz**

3a. **133 oz = _____ lb _____ oz**

3b. **6 lb 14 oz = _____ oz**

4a. **106 oz = _____ lb _____ oz**

4b. **0 lb 5 oz = _____ oz**

5a. **66 oz = _____ lb _____ oz**

5b. **2 T 1800 lb = _____ lb**

6a. **1200 lb = _____ T _____ lb**

6b. **90 oz = _____ lb _____ oz**

7a. **2 lb 3 oz = _____ oz**

7b. **1 T 1600 lb = _____ lb**

8a. **6 lb 7 oz = _____ oz**

8b. **5600 lb = _____ T _____ lb**

9a. **6 lb 1 oz = _____ oz**

9b. **16600 lb = _____ T _____ lb**

10a. **4 T 400 lb = _____ lb**

10b. **5 T 400 lb = _____ lb**

Answer Key

Answer Key for Measuring Worksheet 13

1a. **54 oz**	1b. **72 oz**
2a. **2 T 1400 lb**	2b. **14 oz**
3a. **8 lb 5 oz**	3b. **110 oz**
4a. **6 lb 10 oz**	4b. **5 oz**
5a. **4 lb 2 oz**	5b. **5800 lb**
6a. **0 T 1200 lb**	6b. **5 lb 10 oz**
7a. **35 oz**	7b. **3600 lb**
8a. **103 oz**	8b. **2 T 1600 lb**
9a. **97 oz**	9b. **8 T 600 lb**
10a. **8400 lb**	10b. **10400 lb**

Measuring Worksheet 14

Convert the measuring units as indicated.

1a. **2 gal = _____ qt**

1b. **4 qt = _____ gal**

2a. **20 qt = _____ gal**

2b. **24 oz = _____ C**

3a. **7 C = _____ oz**

3b. **1 pt = _____ C**

4a. **7 gal = _____ qt**

4b. **32 qt = _____ gal**

5a. **2 C = _____ oz**

5b. **1 C = _____ oz**

6a. **4 C = _____ pt**

6b. **8 C = _____ pt**

7a. **4 C = _____ oz**

7b. **5 pt = _____ C**

8a. **48 oz = _____ C**

8b. **4 gal = _____ qt**

9a. **6 C = _____ pt**

9b. **24 qt = _____ gal**

10a. **12 qt = _____ gal**

10b. **8 pt = _____ C**

Answer Key

Answer Key for Measuring Worksheet 14

1a. **8 qt**	1b. **1 gal**
2a. **5 gal**	2b. **3 C**
3a. **56 oz**	3b. **2 C**
4a. **28 qt**	4b. **8 gal**
5a. **16 oz**	5b. **8 oz**
6a. **2 pt**	6b. **4 pt**
7a. **32 oz**	7b. **10 C**
8a. **6 C**	8b. **16 qt**
9a. **3 pt**	9b. **6 gal**
10a. **3 gal**	10b. **16 C**

Measuring Worksheet 15

Convert the measuring units as indicated.

1a. **40 oz = _____ C _____ oz**

1b. **10 C = _____ pt _____ C**

2a. **1 pt 0 C = _____ C**

2b. **2 C 0 oz = _____ oz**

3a. **22 qt = _____ gal _____ qt**

3b. **12 C = _____ pt _____ C**

4a. **48 oz = _____ C _____ oz**

4b. **4 gal 1 qt = _____ qt**

5a. **8 C 0 oz = _____ oz**

5b. **6 gal 1 qt = _____ qt**

6a. **29 qt = _____ gal _____ qt**

6b. **18 qt = _____ gal _____ qt**

7a. **16 C = _____ pt _____ C**

7b. **8 C = _____ pt _____ C**

8a. **1 gal 1 qt = _____ qt**

8b. **4 C 0 oz = _____ oz**

9a. **1 C 0 oz = _____ oz**

9b. **7 pt 0 C = _____ C**

10a. **32 qt = _____ gal _____ qt**

10b. **5 gal 0 qt = _____ qt**

Answer Key

Answer Key for Measuring Worksheet 15

1a.	**5 C 0 oz**	1b.	**5 pt 0 C**
2a.	**2 C**	2b.	**16 oz**
3a.	**5 gal 2 qt**	3b.	**6 pt 0 C**
4a.	**6 C 0 oz**	4b.	**17 qt**
5a.	**64 oz**	5b.	**25 qt**
6a.	**7 gal 1 qt**	6b.	**4 gal 2 qt**
7a.	**8 pt 0 C**	7b.	**4 pt 0 C**
8a.	**5 qt**	8b.	**32 oz**
9a.	**8 oz**	9b.	**14 C**
10a.	**8 gal 0 qt**	10b.	**20 qt**

Measuring Worksheet 16

Convert the measuring units as indicated.

1a. **3 gal = _____ qt**

1b. **108 in = _____ ft**

2a. **2 lb = _____ oz**

2b. **64 oz = _____ qt**

3a. **32 oz = _____ C**

3b. **144 oz = _____ lb**

4a. **3 mi = _____ ft**

4b. **24 oz = _____ C**

5a. **4 pt = _____ C**

5b. **60 in = _____ ft**

6a. **2 ft = _____ in**

6b. **10 lb = _____ oz**

7a. **2 mi = _____ ft**

7b. **6000 lb = _____ T**

8a. **12000 lb = _____ T**

8b. **128 oz = _____ lb**

9a. **6 ft = _____ in**

9b. **2000 lb = _____ T**

10a. **5 pt = _____ C**

10b. **4 ft = _____ in**

Answer Key

Answer Key for Measuring Worksheet 16

1a.	**12 qt**	1b.	**9 ft**
2a.	**32 oz**	2b.	**2 qt**
3a.	**4 C**	3b.	**9 lb**
4a.	**15840 ft**	4b.	**3 C**
5a.	**8 C**	5b.	**5 ft**
6a.	**24 in**	6b.	**160 oz**
7a.	**10560 ft**	7b.	**3 T**
8a.	**6 T**	8b.	**8 lb**
9a.	**72 in**	9b.	**1 T**
10a.	**10 C**	10b.	**48 in**

Measuring Worksheet 17

Convert the measuring units as indicated.

1a. **8000 m = _____ km**

1b. **200 cm = _____ m**

2a. **400 cm = _____ m**

2b. **7000 m = _____ km**

3a. **20 mm = _____ cm**

3b. **50 mm = _____ cm**

4a. **4 cm = _____ mm**

4b. **10 mm = _____ cm**

5a. **10000 m = _____ km**

5b. **80 mm = _____ cm**

6a. **2000 m = _____ km**

6b. **1 m = _____ cm**

7a. **700 cm = _____ m**

7b. **3 m = _____ cm**

8a. **30 mm = _____ cm**

8b. **70 mm = _____ cm**

9a. **60 mm = _____ cm**

9b. **6 km = _____ m**

10a. **9 cm = _____ mm**

10b. **600 cm = _____ m**

Answer Key

Answer Key for Measuring Worksheet 17

1a. **8 km**	1b. **2 m**
2a. **4 m**	2b. **7 km**
3a. **2 cm**	3b. **5 cm**
4a. **40 mm**	4b. **1 cm**
5a. **10 km**	5b. **8 cm**
6a. **2 km**	6b. **100 cm**
7a. **7 m**	7b. **300 cm**
8a. **3 cm**	8b. **7 cm**
9a. **6 cm**	9b. **6000 m**
10a. **90 mm**	10b. **6 m**

Measuring Worksheet 18

Convert the measuring units as indicated.

1a. **3 L = _____ ml**

1b. **7 kg = _____ g**

2a. **4 kg = _____ g**

2b. **9 L = _____ ml**

3a. **3000 g = _____ kg**

3b. **5 kg = _____ g**

4a. **6000 ml = _____ L**

4b. **1 L = _____ ml**

5a. **2 L = _____ ml**

5b. **7000 ml = _____ L**

6a. **8 L = _____ ml**

6b. **9000 g = _____ kg**

7a. **5 L = _____ ml**

7b. **10 kg = _____ g**

8a. **8000 g = _____ kg**

8b. **6 kg = _____ g**

9a. **10000 ml = _____ L**

9b. **4000 ml = _____ L**

10a. **1000 g = _____ kg**

10b. **2000 g = _____ kg**

Answer Key

Answer Key for Measuring Worksheet 18

1a. **3000 ml**	1b. **7000 g**
2a. **4000 g**	2b. **9000 ml**
3a. **3 kg**	3b. **5000 g**
4a. **6 L**	4b. **1000 ml**
5a. **2000 ml**	5b. **7 L**
6a. **8000 ml**	6b. **9 kg**
7a. **5000 ml**	7b. **10000 g**
8a. **8 kg**	8b. **6000 g**
9a. **10 L**	9b. **4 L**
10a. **1 kg**	10b. **2 kg**

Measuring Worksheet 19

Convert the measuring units as indicated.

1a. **2 kg = _____ g**

1b. **7 km = _____ m**

2a. **2 m = _____ cm**

2b. **1 m = _____ cm**

3a. **9 m = _____ cm**

3b. **20 mm = _____ cm**

4a. **3000 ml = _____ L**

4b. **3000 m = _____ km**

5a. **1000 g = _____ kg**

5b. **2 L = _____ ml**

6a. **6 m = _____ cm**

6b. **10 km = _____ m**

7a. **3 kg = _____ g**

7b. **3 cm = _____ mm**

8a. **2 km = _____ m**

8b. **4 kg = _____ g**

9a. **10 mm = _____ cm**

9b. **10 L = _____ ml**

10a. **1000 m = _____ km**

10b. **9 km = _____ m**

Answer Key

Name: _____

Comparing Inches, Feet, & Yards

For each set of measurements, circle the one that is not equal to the others.

a. 48 inches, 4 feet, 2 yards

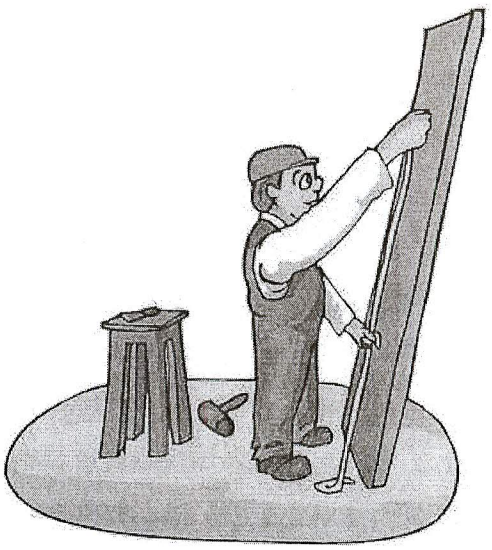
b. 3 yards, 112 inches, 9 feet

c. 4 yards, 7 feet, 84 inches

d. 12 feet, 180 inches, 5 yards

e. 12 yards, 144 inches, 36 feet

f. 8 feet, 72 inches, 2 yards



Rachel, Kim, and Lori each measure the length of a rope. Rachel says the rope is 15 feet long. Kim say it's 180 inches long. Lori says it's 5 yards long. Do the girls all agree? Explain.

_____

_____

Jerry, Barry, and Harry went fishing and they each caught a giant fish! Jerry's fish is 62 inches long. Barry's fish is 7 feet long. Harry's fish is 2 yards long. Who caught the longest fish?

_____

Name: _____

Comparing Inches and Feet

Compare inches to feet. Use the symbols <, >, and = .

6 feet	_____	74 inches		2 feet	_____	20 inches	
12 inches	_____	1 foot		36 inches	_____	3 feet	
9 feet	_____	100 inches		10 feet	_____	129 inches	
72 inches	_____	6 feet		7 feet	_____	90 inches	

Carlita and Sam each made a paper clip chain. Carlita's chain was 60 inches long. Sam's chain was 4 feet long. Whose chain was longer? _____

Gina in 59 inches tall. Is she more or less than 5 feet tall? _____

Mike's paper airplane flew 121 inches. He said that his plane flew "about 12 feet." Is he correct? Explain.

_____

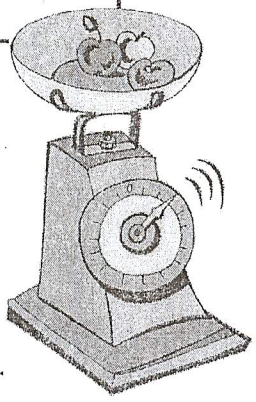
_____

Name: _____

Grams and Kilograms

A **gram** (g) is used to measure the weight or mass of very light objects.
A small paperclip weigts about a gram.

A **kilogram** (kg) is used to measure the weight or mass of heavier objects.
A one-liter bottle of water weigts about a kilogram.



1 kilogram = 1,000 grams

3 kg = _____ g

3 kg x 1,000 = 3,000 g

3 kg = 3,000 g

6,000 g = _____ kg

6,000 ÷ 1,000 = 6 kg

6,000 g = 6 kg

1. A squirrel weighs about.... **a.** 10 grams **b.** 100 grams **c.** 1 kilogram

2. A cell phone weighs about... **a.** 1 gram **b.** 120 grams **c.** 2 kilograms

3. A watermelon weighs about... **a.** 500 grams **b.** 2 kilograms **c.** 13 kilograms

4. 8 kg = _____ g

5. 2,000 g = _____ kg

6. 5,000 g = _____ kg

7. 7 kg = _____ g

8. 10,000 g = _____ kg

9. 30 kg = _____ g

10. Jan's cat weighs 4 kg. Carl's cat weighs 2,900 grams. Whose cat is heavier? Explain.

_____

_____

_____

Name: _____

Grams and Kilograms

A **gram** (g) is used to measure the weight or mass of very light objects.
A small paperclip weighs about a gram.

A **kilogram** (kg) is used to measure the weight or mass of heavier objects.
A one-liter bottle of water weighs about a kilogram.

1 kilogram = 1,000 grams

3.7 kg = _____ g

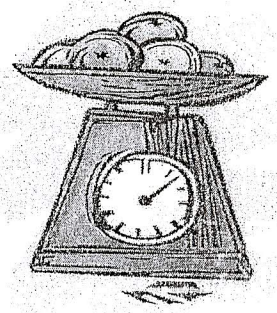
3.7 kg x 1,000 = 3,700 g

3 kg = 3,700 g

6,200 g = _____ kg

6,200 ÷ 1,000 = 6.2 kg

6,200 g = 6.2 kg



1. A pencil weighs about.... a. 3 grams b. 500 grams c. 1.2 kilograms
2. A gallon of milk weighs about... a. 39 grams b. 3.9 kilograms c. 39 kilograms
3. A pineapple weighs about... a. 2.2 kilograms b. 22 kilograms c. 222 grams

4. 8.7 kg = _____ g
5. 2,200 g = _____ kg
6. 5,100 g = _____ kg
7. 7.1 kg = _____ g
8. 12,000 g = _____ kg
9. 35.7 kg = _____ g

10. June's pet guinea pig weighs 950 grams. Larry's pet rabbit weighs 2.1 kilograms. How much more does Larry's pet weigh than June's? Explain how you found your answer.

_____

_____

_____

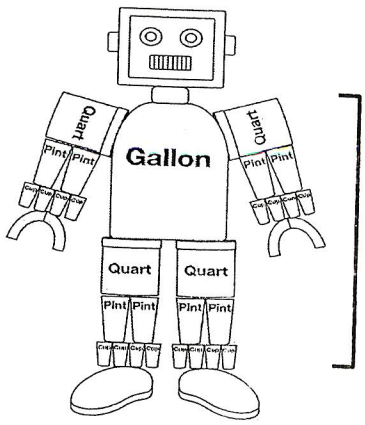
Name: _____

Level 2

Measuring Capacity

1 gallon = 4 quarts = 8 pints = 16 cups

1 gallon = 4 quarts
1 quart = 2 pints
1 pint = 2 cups



Fill in the correct number for each statement.

a. 2 gallons = _____ pints

b. 4 gallons = _____ quarts

c. 3 quarts = _____ pints

d. 6 quarts = _____ cups

e. 5 pints = _____ cups

f. 3 gallons = _____ cups

Circle the greater amount for each pair.

g. 4 quarts or 2 gallons

g. 20 quarts or 4 gallons

h. 12 cups or 3 pints

i. 4 cups or 2 quarts

j. 16 pints or 4 quarts

k. 12 pints or 12 quarts

Circle the best answer and explain.

l. Each day, Isaac feeds his puppy one cup of dog food in the morning and one cup in the evening. How much food does Isaac feed his puppy during a week?

less than 1 gallon exactly 1 gallon more than one gallon

_____

_____

_____

Name _____ Date _____ Class _____

LESSON 9-1

Practice C

Understanding Customary Units of Measure

What unit of measure provides the best estimate? Justify your answer.

1. A new crayon is about 4 _____ long because

_____.

2. A computer weighs about 15 _____ because

_____.

3. A bottle of bubble bath holds about 18 _____ because

_____.

Use benchmarks to estimate each measure.

4. the width of your calculator

_____

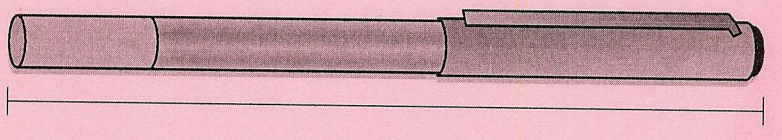
5. the capacity of a small aquarium

_____

6. Jenna wants to weigh a watermelon. What benchmark should she use for the weight of the watermelon?

_____

7. Estimate the length of the pen to the nearest half, fourth, or eighth inch.



_____

Name _____ Date _____ Class _____

LESSON 9-1

Practice B

Understanding Customary Units of Measure

What unit of measure provides the best estimate? Justify your answer.

1. A pair of eyeglasses is about 5 _____ long because

_____.

2. A chalkboard is about 4 _____ long because

_____.

3. A bottle of shampoo weighs about 12 _____ because

_____.

4. A cat weighs about 8 _____ because

_____.

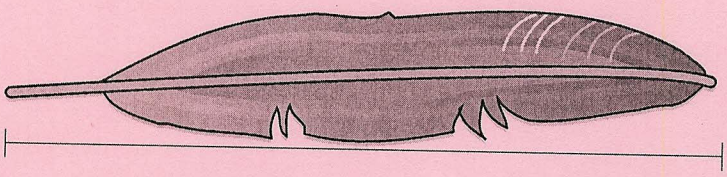
5. An eyedropper holds about 2 _____ because

_____.

6. Ramon filled a watering can with water. What benchmark should he use for the capacity of the watering can?

_____

7. Estimate the length of the feather to the nearest half, fourth, or eighth inch.



_____

NAME _____ DATE _____ PERIOD _____

12-1 Practice: Skills

Length in the Customary System

Complete.

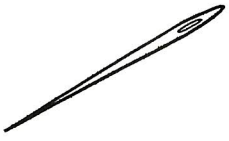
1. 2 ft = ___?___ in.
2. 5 yd = ___?___ ft
3. 18 ft = ___?___ yd
4. 60 in. = ___?___ ft
5. 3,520 yd = ___?___ mi
6. 36 in. = ___?___ yd
7. 3 yd = ___?___ in.
8. $3\frac{1}{2}$ yd = ___?___ ft
9. 2 mi = ___?___ ft

Draw a line segment of each length.

10. $3\frac{1}{2}$ in.
11. $1\frac{3}{4}$ in.
12. $2\frac{1}{8}$ in.
13. $1\frac{7}{8}$ in.
14. $2\frac{1}{4}$ in.
15. $\frac{5}{8}$ in.

For Exercises 16–18, find the length of each line segment or object to the nearest half, fourth, or eighth inch.

16.



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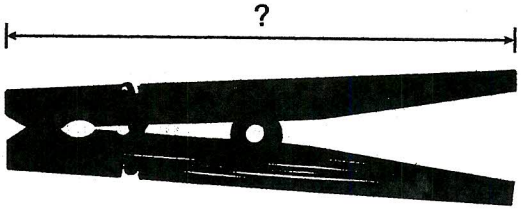

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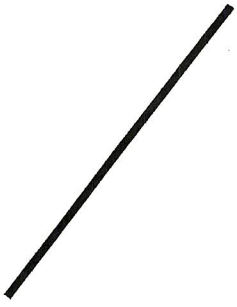


19. Which is greater: $2\frac{1}{4}$ feet or 26 inches? Explain.

20. Which is greater: $3\frac{1}{3}$ yards or 12 feet? Explain.

NAME _____ DATE _____ PERIOD ____

12-3 Practice: Skills

Length in the Metric System

Write the metric unit of length you would use to measure each of the following.

1. depth of an ocean

2. length of an eyelash

3. length of your bedroom

4. length of the Panama Canal

5. height of a can of soup

6. depth of a swimming pool

7. length of the eye of a needle

8. height of a washing machine

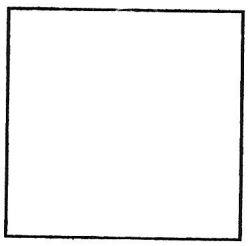
9. length of a pencil

10. width of a pencil

Measure each line segment or side of each figure in centimeters and millimeters.

11.

12. 

13. 

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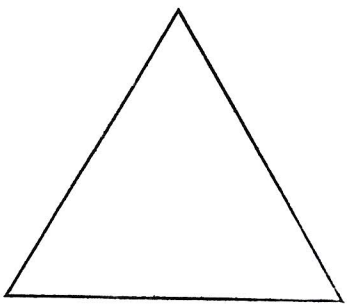
15. 

16.

NAME _____ DATE _____ PERIOD ____

12-1 Practice: Word Problems

Length in the Customary System

1. WOODWORKING Anthony is building a toolbox with length 2 feet, width $1\frac{1}{2}$ feet, and height 3 feet. What are the dimensions of Anthony's box in inches?	**2. TRIATHLON** Julie is training for a small triathlon where she will run 3 miles, bike 10 miles, and swim 150 yards. How many yards will Julie run? How many feet will she swim?
3. WEATHER Raquel and her family are moving from Portland, Oregon, to Seattle, Washington. She is comparing annual rainfall to prepare for her move. Portland's annual rainfall is $3\frac{1}{12}$ feet. Seattle's annual rainfall is 37 inches. Which city gets more rain?	**4. SEWING** Abe needs 13.5 feet of fabric to make a bedspread. How many yards does he need?
5. TRAVEL On her trip to New York City, Celia read that the famous Woolworth building was built in 1913 and stands 792 feet tall. How high is the building in yards?	**6. FOOTBALL** The length of a football field is 100 yards. How many feet is that? How many inches?
7. SCHOOL Krista lives $\frac{1}{2}$ mile from school. Desiree lives 872 yards away from school. Who lives closer? Explain.	**8. CRAFTS** David is making a pattern for the mouth of a puppet. The mouth will be a rectangle of red felt fabric. The rectangle will be $\frac{3}{8}$ inch wide and $2\frac{1}{4}$ inches long. Draw a pattern for David.

Lesson 12–1

Name _____ Date _____ Class _____

LESSON 9-2

Reteach

Understanding Metric Units of Measure

The metric system of measurement uses millimeters, centimeters, decimeters, meters, and kilometers to measure length, width, distance, and height.

- Use millimeters to measure objects that are a few thicknesses of a dime.
- Use centimeters to measure objects that are a few widths of a fingernail.
- Use decimeters to measure objects that are a few widths of a CD case.
- Use meters to measure objects that are a few widths of a single bed.
- Use kilometers to measure distances that are a few distances around a city block.

Write *millimeters*, *centimeters*, *decimeters*, *meters*, or *kilometers*.

1. Your arm is about 3 _____ long.

2. An ant is about 5 _____ long.

The metric system of measurement uses milligrams, grams, and kilograms to measure mass.

- Use milligrams to measure objects that have a mass of a few very small insects.
- Use grams to measure objects that have a mass of a few large paper clips.
- Use kilograms to measure objects that have a mass of a few textbooks.

Write *milligrams*, *grams*, or *kilograms*.

3. A ruler has a mass of about 5 _____.

4. A kitten has a mass of about 2 _____.

The metric system of measurement uses milliliters and liters to measure capacity.

- Use milliliters to measure objects that have a capacity of a few drops of water.
- Use liters to measure objects that have a capacity of a few blender containers.

Write *milliliters* or *liters*.

5. A fish bowl has a capacity of about 7 _____.

6. A soup spoon has a capacity of about 20 _____.

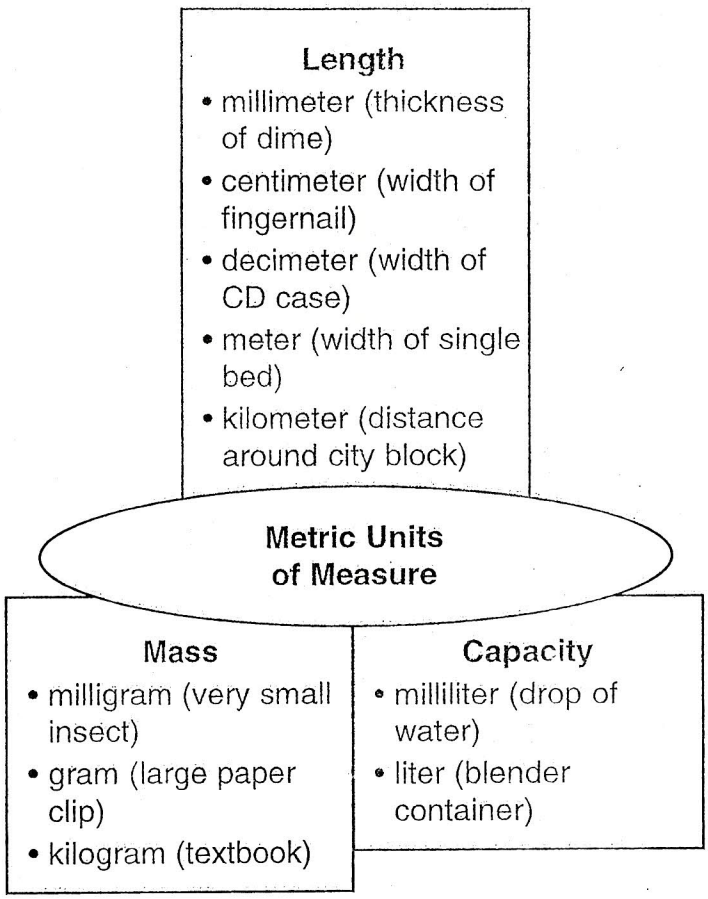
Name _____ Date _____ Class _____

LESSON 9-2

Reading Strategies

Use a Graphic Organizer

This graphic organizer will help you learn about the metric units of measure.



Use the graphic organizer to answer each question.

1. Which unit of length is the longest? _____
2. Which unit of mass is heavier than a milligram but lighter than a kilogram? _____
3. Which unit of capacity is the greatest? _____
4. Which unit of length is about as wide as a CD case? _____
5. Which unit of capacity is about the same as a drop of water? _____
6. Which unit of mass is about the mass of a textbook? _____

Name _____ Date _____ Class _____

LESSON 9-2

Problem Solving

Understanding Metric Units of Measure

Use metric units of measure to answer each question.

1. Which unit of measure would be most appropriate to use for the capacity of a swimming pool?

_____

2. Which unit of measure would be most appropriate to use for the length of an insect?

_____

3. Which unit of measure would be most appropriate to use for the weight of a television set?

_____

4. Which unit of measure would be most appropriate to use for the weight of a feather?

_____

5. Which unit of measure would be most appropriate to use for the distance between two cities?

_____

6. Which unit of measure would be most appropriate to use for the capacity of a can of soup?

_____

Circle the letter of the correct answer.

7. How long is a desk?
   - **A** about 1.5 mm
   - **B** about 1.5 cm
   - **C** about 1.5 m
   - **D** about 1.5 km

8. What is the mass of a bird?
   - **F** about 9 mg
   - **G** about 90 mg
   - **H** about 90 g
   - **J** about 90 kg

9. What is the capacity of a can of soda?
   - **A** about 5 mL
   - **B** about 500 mL
   - **C** about 5 L
   - **D** about 500 L

10. How long is your math book?
    - **F** about 30 times the width of a fingernail
    - **G** about 10 times as thick as a dime
    - **H** about 5 times as wide as a single bed
    - **J** about 2 times the distance around a city block

Name _____ Date _____ Class _____

LESSON 9-2

Puzzles, Twisters & Teasers

House Wear

Decide if each statement is true or false, and circle your answer. Answer the riddle by rearranging the letters next to your circled answers.

1. A piece of paper is about as wide as 3 CD cases. True **M** False **D**

2. A fly has a mass of about 3 mg. True **A** False **C**

3. A mug has a capacity of about 250 mL True **R** False **O**

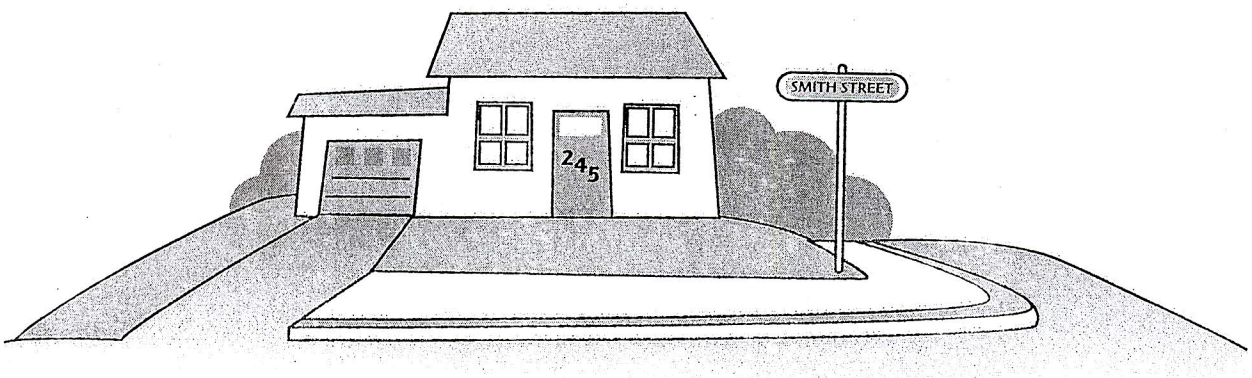
4. A calculator is about as wide as 8 fingernails. True **S** False **P**

5. A pen is about 14 dm long. True **K** False **D**

6. A cell phone has a mass of about 20 g. True **E** False **F**

7. A blender container has a capacity of about 5 L. True **R** False **S**

What clothing does a house wear? _____



Name _____ Date _____ Class _____

LESSON 9-2

Practice A

Understanding Metric Units of Measure

What unit of measure provides the best estimate? Justify your answer.

1. A nickel is about 2 _____ thick because it is about 2 times

_____.

2. A pencil is about 15 _____ long because it is about 15 times

_____.

3. A box of tissues has a mass of about 10 _____ because it has the mass of about 10

_____.

4. A plant has a mass of about 3 _____ because it has a mass of about 3

_____.

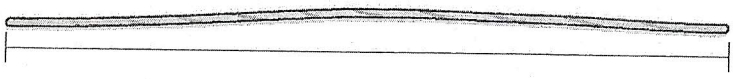
5. A soda bottle has a capacity of about 1 _____ because it has a capacity of about 1

_____.

6. Andrew filled a tablespoon with water. What benchmark should he use for the capacity of the tablespoon?

_____

7. Estimate the length of the piece of string to the nearest centimeter.



_____

Name _____ Date _____ Class _____

LESSON 9-2

Practice B

Understanding Metric Units of Measure

What unit of measure provides the best estimate? Justify your answer.

1. A quarter is about 2 _____ thick because

_____.

2. A pen is about 12 _____ long because

_____.

3. A tissue has a mass of about 10 _____ because

_____.

4. A brick has a mass of about 1 _____ because

_____.

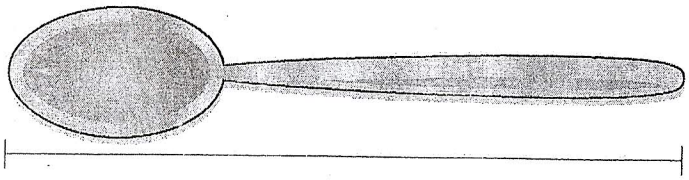
5. A cereal bowl has a capacity of about 500 _____ because

_____.

6. Mia filled a pail with water. What benchmark should she use for the capacity of the pail?

_____

7. Estimate the length of the spoon to the nearest centimeter.



_____

Name _____ Date _____ Class _____

LESSON 9-1

Puzzles, Twisters & Teasers

A Whale of a Time!

Answer each question below and circle the letter next to the correct answer. Write the letters over the number of the problem in the corresponding space in the riddle.

1. Which unit would you use for the height of a sixth-grade student?

   X yard **B** inch **P** mile

2. Which unit would you use for the weight of a peach?

   L ounce **S** ton **F** pound

3. Which unit would you use for the capacity of a bathtub?

   A fluid ounce **U** gallon **M** cup

4. Which unit would you use for the distance between New York and Miami?

   O foot **C** inch **B** mile

5. Which unit would you use for the length of a nail?

   B inch **D** yard **E** mile

6. Which unit would you use for the weight of a truck?

   E ton **R** ounce **A** pound

7. Which unit would you use for the width of a cell phone?

   W yard **V** foot **R** inch

8. Which unit would you use for the weight of a television set?

   Q ton **G** pound **T** ounce

9. Which unit would you use for the capacity of a water glass?

   I quart **X** gallon **U** cup

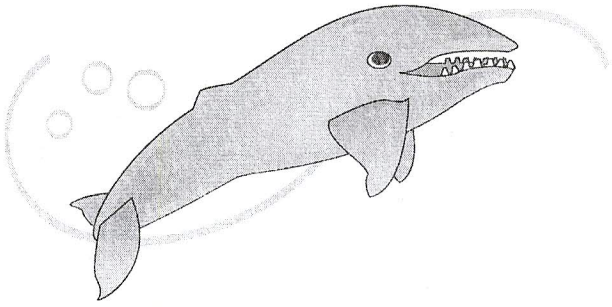
10. Which unit would you use for the distance between your eyes?

    H mile **M** inch **J** yard

What do whales like to chew?

___	___	___	___	___	___	___
1.	2.	3.	4.	5.	6.	7.

___	___	___
8.	9.	10.



Name _____ Date _____ Class _____

LESSON 9-1

Reteach

Understanding Customary Units of Measure

The customary system of measurement uses inches, feet, yards, and miles to measure length, width, distance, and height.

- Use inches to measure objects that are a few widths of your thumb.
- Use feet to measure objects that are a few times the distance from your shoulder to your elbow.
- Use yards to measure objects that are a few widths of a classroom door.
- Use miles to measure distances that are a few times the lengths of 18 football fields.

Write *inches*, *feet*, *yards*, or *miles*.

1. Your hand is about 3 _____ wide.

2. A grown man is about 2 _____ tall.

The customary system of measurement uses ounces, pounds, and tons to measure weight.

- Use ounces to measure objects that weigh as much as a few slices of bread.
- Use pounds to measure objects that weigh as much as a few loaves of bread.
- Use tons to measure objects that weigh as much as a few small cars.

Write *ounces*, *pounds*, or *tons*.

3. A feather weighs about 2 _____.

4. A hippo weighs about 4 _____.

The customary system of measurement uses fluid ounces, cups, pints, quarts, and gallons to measure capacity.

- Use fluid ounces to measure objects that have a capacity of a few spoonfuls.
- Use cups to measure objects that have a capacity of a few glasses of juice.
- Use pints to measure objects that have a capacity of a few small bottles of salad dressing.
- Use quarts to measure objects that have a capacity of a few small containers of paint.
- Use gallons to measure objects that have a capacity of a few large containers of milk.

Write *fluid ounces*, *cups*, *pints*, *quarts*, or *gallons*.

5. Two teaspoons hold about 2 _____.

6. Five mugs hold about 5 _____.

Temperature

Conversion formulas:
C = (F - 32) X 5/9
F = (C X 9/5) + 32
32F = 0C
40F = 4.4C
100F = 37.7C
200F = 93.3C
225F = 107.2C
250F = 121.1C
275F = 135C
300F = 148.9C
325F = 162.8C
350F = 176.7C
375F = 190.6C
400F = 204.4C
425F = 218.3C
450F = 232.2C
475F = 246.1C
500F = 260C

Distance

1 inch = 2.5 centimeters
1 foot = 30 centimeters
1 millimeter = 0.04 inch
1 centimeter = 0.4 inch
1 meter = 3.3 feet

Abbreviations

Standard English
cup = C
fluid cup = fl C
fluid ounce = fl oz
fluid quart = fl qt
foot = ft
gallon = gal
inch = in
ounce = oz
pint = pt
pound = lb
quart = qt
tablespoon = T or Tbsp
teaspoon = t or tsp
yard = yd

Metric

millimeter = mm
centimeter = cm
meter = m
kilometer = km
milliliter = mL
liter = L
milligram = mg
gram = g
kilogram = kg

Unusual Weights and Measures

1 bit = 2 pinches
1 smidgen = 4 bits
1 dollop = 2 smidgens
1 gaggle = 3 dollops
1 gaggle = 2 glugs
1 blanket = 2 glugs
1 smothering = 3 blankets

DRY UNIT/LIQUID UNIT

1 pint, dry = 1.1636 pints, liquid
1 quart, dry = 1.1636 quarts, liquid
1 gallon, dry = 1.1636 gallons, liquid

Kilo	1,000
Hecto	100
Deka	10
Base	0
Deci	0.1
Centi	0.01
Milli	0.001

Weight

1 ounce = 28.35 grams
1 pound = 453.59 grams
1 gram = 0.035 ounce
100 grams = 3.5 ounces
1000 grams = 2.2 pounds
1 kilogram = 35 ounces
1 kilogram = 2.2 pounds

Volume

1 milliliter = 1/5 teaspoon
1 milliliter = 0.03 fluid ounce
1 teaspoon = 5 milliliters
1 tablespoon = 15 milliliters
1 fluid ounce = 30 milliliters
1 fluid cup = 236.6 milliliters
1 quart = 946.4 milliliters
1 liter (1000 milliliters) = 34 fluid ounces
1 liter (1000 milliliters) = 4.2 cups
1 liter (1000 milliliters) = 2.1 fluid pints
1 liter (1000 milliliters) = 1.06 fluid quarts
1 liter (1000 milliliters) = 0.26 gallon
1 gallon = 3.8 liters

Standard Measurements

1 cup = 24 centiliter (cl) or 240 milliliter (ml)
1 tablespoon (tbsp) = 15 milliliter (ml)
1 teaspoon (tsp) = 5 milliliter (ml)
1 fluid ounce (oz) = 30 milliliter (ml)
1 pound (lb) = 454 grams (gm)

Name _____ Date _____ Class _____

LESSON 9-2

Practice C

Understanding Metric Units of Measure

What unit of measure provides the best estimate? Justify your answer.

1. A bedroom rug is about 3 _____ wide because

_____.

2. A carrot has a mass of about 10 _____ because

_____.

3. A dog's bowl has a capacity of about 350 _____ because

_____.

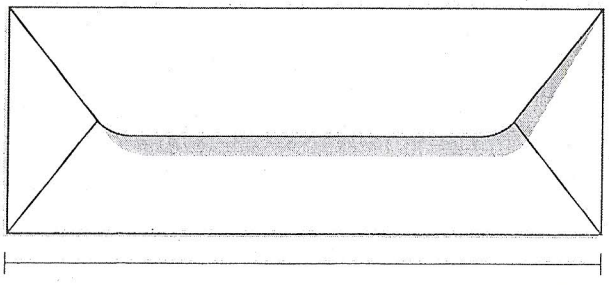
4. Tina is estimating the length of a sticky note. She gets an estimate of about 4 ___?___. Which benchmark was Tina most likely using: the thickness of a penny, the width of her thumbnail, or the length of her fist?

_____

5. George is estimating the mass of a baseball. He gets an estimate of about 400 ___?___. Which benchmark was George most likely using: the mass of a quarter, the mass of a computer, or the mass of a flea?

_____

6. Estimate the length of the envelope to the nearest centimeter.



_____

Name _____ Date _____ Class _____

LESSON 9-2

Challenge

Metric Classroom Challenge

Find objects in your classroom for each unit of measure. Estimate first. Then measure.

LENGTH, WIDTH, OR HEIGHT

Object	Estimate	Actual
	_____ millimeters	_____ millimeters
	_____ centimeters	_____ centimeters
	_____ centimeters	_____ centimeters
	_____ decimeters	_____ decimeters
	_____ decimeters	_____ decimeters
	_____ meters	_____ meters

WEIGHT

Object	Estimate	Actual
	_____ milligrams	_____ milligrams
	_____ grams	_____ grams
	_____ grams	_____ grams
	_____ kilograms	_____ kilograms

CAPACITY

Object	Estimate	Actual
	_____ milliliters	_____ milliliters
	_____ milliliters	_____ milliliters
	_____ liters	_____ liters
	_____ liters	_____ liters

Test Name: 6.9 Quiz Part 1 (bi5t2i)

1 Which of the following statements is false?

A A kilogram is a little more than 2 pounds.

B A foot is about 30 centimeters.

C Water freezes at 0° F and at 37°C.

D A kilometer is a little longer than ½ of a mile.

2 Which is equivalent to 72 in.?

A $\frac{1}{2}$ yd.

B 2 yds.

C 4 yds.

D 6 yds.

3 Which of the following would make the statement true?

0.6 km = __?__ m

A 0.06

B 6

C 60

D 600

4 **Which of the following is equivalent to one kilometer?**

A 0.001 meters
B 100 centimeters
C 1,000 grams
D 1,000 meters

5 $6\frac{3}{4}$ **feet is equivalent to which of the following?**

A 39 inches
B 72 inches
C 76 inches
D 81 inches

6 **A football field is fifty feet wide. Which of the following is equivalent to a football field?**

A 15 meters
B 25 meters
C 30 meters
D 150 meters

7 What unit would you use to estimate the height of a tall building?

A mm
B cm
C m
D km

8 What unit would be best in measuring the distance on a map from Washington, DC to New York City?

A inches
B feet
C yards
D pounds

9 What unit would you use to estimate the distance from Richmond to Virginia Beach?

A mm
B cm
C m
D km

10 **Mr. Bowling is making a path of paving stones around his pool in the backyard. The path will be 18 feet long. Each of the square paving stones is 9 inches long. How many paving stones will Mr. Bowling need if he places them end to end?**

A 24

B 27

C 108

D 162

11 **How many meters are equal to 50 kilometers?**

A 5 m

B 50 m

C 5,000 m

D 50,000 m

12 **How many millimeters are equivalent to 400 centimeters?**

A 0.4 mm

B 4 mm

C 40 mm

D 4,000 mm

13 **Dwayne can throw a ball about 2,400 centimeters. How many millimeters can he throw the ball?**

A 24,000 mm

B 2,400 mm

C 240 mm

D 0.24 mm

14 **A rope is 8 feet long. Which of the following is another way to express the length of the rope?**

A $2\frac{1}{3}$ yards

B $2\frac{1}{2}$ yards

C $2\frac{2}{3}$ yards

D $2\frac{3}{4}$ yards

15 **Danielle walked 6.8 kilometers in a recent marathon. How many meters did she walk in the marathon?**

A 68 meters

B 680 meters

C 6,800 meters

D 68,000 meters

16 **Jake's fence is 23 feet long. Which of the following is another way to express 23 feet?**

A $7\frac{1}{3}$ yards

B $7\frac{2}{3}$ yards

C 8 yards

D $8\frac{1}{3}$ yards

17 $8\frac{1}{2}$ **feet is equivalent to which of the following?**

A 14 inches

B 96 inches

C 102 inches

D 118 inches

18 **How many yards are equivalent to 216 inches?**

A 4

B 6

C 8

D 10

Name _____ Date _____ Class _____

LESSON 9-1

Challenge

Customary Classroom Challenge

Find objects in your classroom for each unit of measure. Estimate first. Then measure.

LENGTH, WIDTH, OR HEIGHT

Object	Estimate	Actual
	_____ inches	_____ inches
	_____ inches	_____ inches
	_____ feet	_____ feet
	_____ feet	_____ feet
	_____ yards	_____ yards
	_____ yards	_____ yards

WEIGHT

Object	Estimate	Actual
	_____ ounces	_____ ounces
	_____ ounces	_____ ounces
	_____ pounds	_____ pounds
	_____ pounds	_____ pounds

CAPACITY

Object	Estimate	Actual
	_____ fluid ounces	_____ fluid ounces
	_____ cups	_____ cups
	_____ pints	_____ pints
	_____ quarts	_____ quarts

NAME _____ DATE _____ PERIOD ____

12-2 Practice: Word Problems

Capacity and Weight in the Customary System

1. **COOKING** Sylvia is making a pot of stew that needs 1 quart of beef broth. How many cups of beef broth does she need?	2. **CANDY** Wade works at the candy shop. He wrapped 56 pieces of fudge to sell. How many total pounds of fudge did he wrap if each piece weighed 1 ounce?
3. **TRUCKS** Shauna's truck can handle up to 2 tons of weight. She wants to haul 3,500 pounds of wood. How many tons of wood is that? Can she haul all of it at once?	4. **GIFTS** Jason made 34 bottles of flavored olive oil to give to his class. How many pints of flavored olive oil did Jason make if each bottle holds 8 fluid ounces?
5. **CIDER** Mary bought five gallons of apple cider for her birthday party. She expects 20 guests. How many cups of cider will each guest get?	6. **PETS** Pam has a 4-pound bag of dry cat food. Every day she puts out 4 ounces of dry cat food for her cat. For how many days will the bag of cat food be enough to feed her cat? Explain.
7. **LUNCH** Suzie fills a 1-pint thermos with milk each day for lunch. How many times will she be able to fill her thermos with $\frac{1}{2}$ gallon of milk? Explain how you found your answer.	8. **COOKING** James is making a quart of won ton soup using canned chicken broth. A can of chicken broth holds 14 fluid ounces. How many cans will James need to buy? Explain how you found your answer.

Name _____ Class Period 1 2 3 5 6 Date _____

Class Practice Questions
S.O.L. 6.2, 6.3, 6.4, 6.6, 6.7, 6.8, 6.9, 6.10

1. **Lee bought 5 cans of shrimp and 8 cans of tuna. What is the ratio of shrimp to the total purchased?**

A $\frac{5}{13}$

B $\frac{5}{10}$

C $\frac{5}{8}$

D $\frac{13}{100}$

2. **There were 12 footballs and 30 students in gym class. Which ratio accurately compares the number of students to the number of footballs?**

A 6:15
B 5:2
C 12:30
D 2:5

3. **If the ratio of girls to boys in the sixth grade choir is 2 to 3, which of the following shows the possible number of boys and girls in the choir?**

A 20 girls, 35 boys
B 24 girls, 36 boys
C 35 girls, 20 boys
D 36 girls, 24 boys

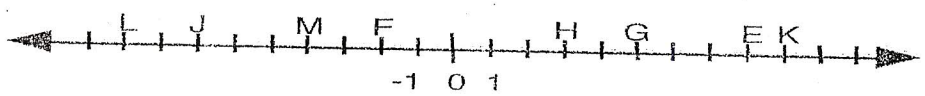
1. **Mrs. Walker has a piece of red ribbon 18 inches long and a piece of blue ribbon 24 inches long. She wants to cut each piece of ribbon into smaller strips so that all the strips will have the same length. Without wasting any ribbon, which of the following would be the longest possible length of each strip of ribbon?**

A 3 inches
B 6 inches
C 9 inches
D 12 inches

2. **Mrs. Jones volunteers at the hospital every 8 days. Mr. Smith volunteers at the same hospital every 6 days. If they both are volunteering today, how many more days will it be before they are both at the hospital on the same day?**

A 14 days
B 24 days
C 32 days
D 48 days

Use the number line below to answer questions *1, 2, and 3.*



1. **Which of these sets is ordered from greatest to least?**

A 4, 3, 2, –2, –3
B 4, 3, –3, 2, –2
C 4, 3, 2, –3, –2
D 4, –3, 3, –2, 2

2. **Identify the integer represented by the letter *J*.**

A –8
B –7
C 7
D 8

3. Which letter represents the number –9?

A J
B E
C L
D K

1. Find the difference:

$$52\frac{3}{8} - 9\frac{1}{2}$$

A $42\frac{1}{2}$

B $42\frac{7}{8}$

C $43\frac{1}{8}$

D $43\frac{1}{3}$

2. Stacey has $2\frac{1}{4}$ cups of milk in a measuring cup. She needs to pour $\frac{2}{3}$ cup of this milk out of the measuring cup. How much milk will be left in the cup?

A $1\frac{1}{3}$ cups

B $1\frac{3}{7}$ cups

C $1\frac{7}{12}$ cups

D $2\frac{5}{12}$ cups

1. **Di will buy sandwiches for $2.95, $3.00, $2.75, and $3.25 from a vending machine where she works. About how much money does she need?**

A $10.00
B $11.00
C $12.00
D $13.00

2. **Macy spent $4.17, $3.78, $2.23, and $4.87 for snacks during the last 4 weeks. Which is the best estimate of how much money Macy spent on snacks?**

A $14.00
B $15.00
C $16.00
D $17.00

3. **For his office, Mr. Davis ordered one package of black pens and one package of blue pens. Each package contained 122 pens. He also ordered 28 purple pens and 48 red pens. Which is the best estimate of the total number of pens Mr. Davis ordered?**

A 320
B 300
C 220
D 200

4. **Charise wants to buy a new TV for her family. The TV costs $475, Charise has $210 in her savings account and $60 cash. Which is the best estimate for how much more money she needs in order to buy the TV?**

A $200
B $250
C $300
D $400

1. **Use the menu for the question below. Vicki and three of her friends went to their favorite pizza shop. They ordered a 2 topping pizza and a cheese pizza. Each girl ordered a drink. What was the total cost of their dinner, not including tax?**

Angelina's Pizza	
Cheese Pizza	$5.99
Pizza with 1 topping	$6.49
Pizza with 2 toppings	$6.99
Pizza with 3 toppings	$7.49
Supreme (5 or more toppings)	$8.49
Drinks	$1.29

A **$12.98**
B $14.27
C $16.85
D $18.14

2. **Mrs. Jones is going shopping for new clothes. She has $85.00 to spend. She wants to buy a blouse for $19.56, pants for $23.67 and shoes for $22.45. All the prices include tax. How much money does she have left after she pays for the 3 items?**

A $16.32
B **$17.32**
C $18.32
D $19.32

3. **Mrs. Fabela is going shopping for new clothes. She has $60 to spend. She wants to buy a blouse for $19.56, pants for $23.67 and a hat for $6.99. All the prices include tax. How much money does she have left after she pays for the 3 items?**

A **$5.76**
B $6.87
C $9.78
D $9.88

4. **Chris spent $7.54 for a hat and $8.65 for a t-shirt. After paying for his purchases he had $3.85 left. How much money did Chris have before he bought the hat and shirt?**

A **$20.04**
B $12.34
C $11.56
D $8.49

1. **A 2 quart bottle will hold about how many liters?**

A 1 liter
B **2 liters**
C 4 liters
D 8 liters

2. **Which is the best estimate for the length of a notebook?**

A 25 mm
B 25 cm
C 25 m
D 25 km

3. **Which is the best estimate for the volume of a cup of tea?**

A 240 mL
B 240 L
C 240 m
D 240 km

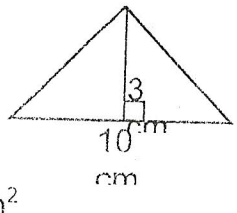
4. **Which is the best estimate for the weight of a slice of bread?**

A 3 g
B 30 g
C 300 g
D 3000 g

5. **Which is the best estimate for the capacity of a box of detergent?**

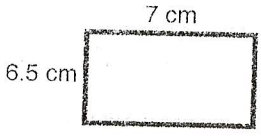
A 50 lb.
B 50 oz.
C 5 T
D 5 oz.

1. **What is the area of the figure shown?**



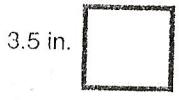
A 7.5 cm^2
B 13.5 cm^2
C 15 cm^2
D 30.5 cm^2

2. **What is the distance around the rectangle?**



A **13.5 cm**
B 26.5 cm
C **27 cm**
D **45.5 cm**

3. **Use the formula, $P = 4s$, to find the perimeter of this square.**

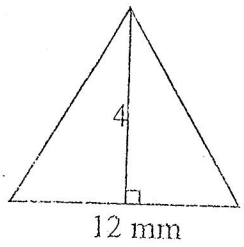


A 7 in.
B 12.25 in.
C 14 in.
D 20 in.

4. **Which statement is an example of perimeter?**

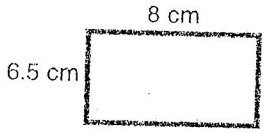
A Jan enclosed the flower bed with a fence.
B Henry put gas in the car.
C Sarah covered the living room with carpet.
D Kim walked from school to her house.

5. Use the formula, $A = \frac{1}{2}bh$, to find the area of this triangle.



A 12 sq. mm
B 16 sq. mm
C 24 sq. mm
D 48 sq. mm

6. Use the formula, $A = lw$, to find the area of this rectangle.



A 14.5 sq. cm
B 20 sq. cm
C 48.5 sq. cm
D 52 sq. cm

Name _____ Class Period: 1 2 3 5 6

Class Practice Questions
S.O. L. 6.1, 6.2, 6.3, 6.4, 6.5

1. Which is equivalent to 3/20?

A 3%
B 5%
C15%
D20%

2. Which of the following is a composite number?

A 13
B 15
C 17
D 23

3. Which of the following statements does *not* describe the meaning of the word percent?

A. hundredths
B. per 100
C. how many out of 100
D. area of a square

4. The ratio of boys to girls in Room B is 15 to 12. What is the ratio of girls to total students in Room B?

A 12 to 27
B 12 to 15
C 15 to 27
D 15 to 12

5. What is the greatest common factor of 12 and 20?

A 2
B 4
C 60
D 240

6. Which of the following is true?

A $0.310 > 0.325$
B $0.325 < 0.275$
C $0.325 > 0.310$
D $0.310 < 0.275$

Camelia's Grades

Grades	Number Earned
A	4
B	3
C	1

13. According to the table, what is the ratio of the number of A's Camelia earned to the number of B's she earned?

A 4:7
B 3:4
C 7:4
D 4:3

14. Which statement is true?

A $\frac{18}{25} > \frac{24}{31}$

B $\frac{26}{21} < \frac{34}{29}$

C $\frac{15}{4} < \frac{18}{30}$

D $\frac{30}{36} > \frac{18}{23}$

15. There are 30 red marbles and 150 blue marbles in a box. What is the ratio of blue marbles to red marbles?

A $\frac{180}{30}$

B $\frac{30}{80}$

C $\frac{150}{30}$

D $\frac{30}{150}$

16. What is the least common multiple of 6 and 10?

A 20
B 30
C 60
D 90

7 **Which is a prime number?**

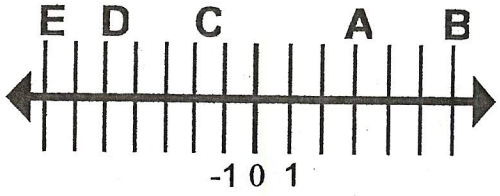
A 33
B 35
C 37
D 39

8 **Which is equivalent to 7/10?**

A 0.7%
B 7%
C 70%
D 700%

9 **Which statement is not true?**

A $4 < |9$
B $3 > |2$
C $|6 < 6$
D $|8 > |10$



10. Identify the integer represented by the letter D.

A 4
B 5
C –4
D –5

11. Which list of numbers contains only common factors of 24 and 36?

A 2, 4, 6, 12
B 2, 4, 8, 12
C 3, 6, 9, 12
D 3, 6, 12, 18

12. Which fraction has the same value as 0.6?

A $\frac{2}{3}$

B $\frac{3}{5}$

C $\frac{1}{2}$

D $\frac{1}{6}$

17. Which statement is true?

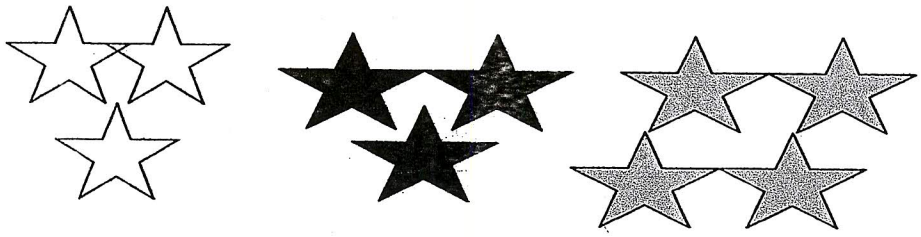
A -599 > -385
B 4,119 < -3,513
C -56,803 > -64,122
D -85 > - 89

18. Which group contains *only* prime numbers?

F 5, 13, 29, and 47
G 7, 11, 27, and 43
H 7, 19, 33, and 41
J 11, 17, 37, and 39

19. What is the greatest common factor of 30, 42, and 48?

A 2
B 3
C 6
D 8

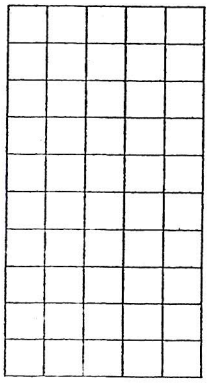


20. The picture shows the number of stars Angie received from her piano teacher for practicing. What is the ratio of the number of gray stars to black stars?

A 4 to 3
B 3 to 4
C 4 to 10
D 6 to 10

21. Sue's little sister was coloring the squares on a 5 × 10 grid. She had colored 25 of the squares. What percent of the squares were not yet colored?

A 10%
B 25%
C 40%
D 50%



Name _____ Class 1 2 3 5 6

S.O.L. 6.9 Class Practice Questions

1. Which of the following statements is false?

A A kilogram is a little more than 2 pounds.
B A foot is about 30 centimeters.
C Water freezes at 0° F and at 37°C.
D A kilometer is a little longer than _ of a mile.

2. Which is equivalent to 72 in.?

A $\frac{1}{2}$ yd.
B 2 yds.
C 4 yds.
D 6 yds.

3. Which of the following would make the statement true?
0.6 km = ___?___ m

A 0.06
B 6
C 60
D 600

4. Which of the following is equivalent to one kilometer?

A 0.001 meters
B 100 centimeters
C **1,000 grams**
D 1,000 meters

5. $6\frac{3}{4}$ feet is equivalent to which of the following?

A 39 inches
B 72 inches
C 76 inches
D 81 inches

6. A football field is fifty feet wide. Which of the following is equivalent to a football field?

A 15 meters
B 25 meters
C 30 meters
D 150 meters

7. **What unit would you use to estimate the height of a tall building?**

A mm
B cm
C m
D km

8. **What unit would be best in measuring the distance on a map from Washington, DC to New York City?**

A inches
B feet
C yards
D pounds

9. **What unit would you use to estimate the distance from Richmond to Virginia Beach?**

A mm
B cm
C m
D km

10. **Mr. Bowling is making a path of paving stones around his pool in the backyard. The path will be 18 feet long. Each of the square paving stones is 9 inches long. How many paving stones will Mr. Bowling need if he places them end to end?**

A 24
B 27
C 108
D 162

11. **How many meters are equal to 50 kilometers?**

A 5 m
B 50 m
C 5,000 m
D 50,000 m

12. **How many millimeters are equivalent to 400 centimeters?**

A 0.4 mm
B 4 mm
C 40 mm
D 4,000 mm

13. **Dwayne can throw a ball about 2,400 centimeters. How many millimeters can he throw the ball?**

A 24,000 mm
B 2,400 mm
C 240 mm
D 0.24 mm

14. **A rope is 8 feet long. Which of the following is another way to express the length of the rope?**

A $2\frac{1}{3}$ yards

B $2\frac{1}{2}$ yards

C $2\frac{2}{3}$ yards

D $2\frac{3}{4}$ yards

15. **Danielle walked 6.8 kilometers in a recent marathon. How many meters did she walk in the marathon?**

A 68 meters
B 680 meters
C 6,800 meters
D 68,000 meters

16. **Jake's fence is 23 feet long. Which of the following is another way to express 23 feet?**

A $7\frac{1}{3}$ yards

B $7\frac{2}{3}$ yards

C 8 yards

D $8\frac{1}{3}$ yards

17. $8\frac{1}{2}$ feet is equivalent to which of the following?

A 14 inches
B 96 inches
C 102 inches
D 118 inches

18. How many yards are equivalent to 216 inches?

A 4
A 6
B 8
C 10

19. One kilometer is equivalent to which of the following?

A 0.001 meters
B 100 centimeters
C 1,000 grams
D 1,000 meters

20. Which of the following is equivalent to $7\frac{1}{4}$ feet?

A 18 inches
B 51 inches
C 87 inches
D 102 inches

Name _____
Class Period _____
Date _____

S.O.L. 6.9
Vocabulary Quiz

1. _____ A unit of length in the customary system equal to 3 feet or 36 inches.

2. _____ A unit of length in the customary system equal to 5, 280 feet.

3. _____ A metric unit used to measure capacity equal to 4 quarts.

4. _____ A customary unit used to measure capacity 8 oz. which equal 1 cup.

5. _____ A unit of length in the metric system - 1,000 of which equal 1 meter.

6. _____ A unit in mass in the metric system equal to 1,000 grams.

7. _____ A metric unit used to measure mass equal to 1,000 milligrams.

8. _____ A customary unit is used to measure capacity equal to 8 fluid ounces.

Cup Fluid Ounces Gallon Gram

Kilogram Mile Milligram Yard

NAME _____ DATE _____ PERIOD ____

12-2 Practice: Skills

Capacity and Weight in the Customary System

Complete.

1. 2 lb = ___?___ oz

2. 3 gal = ___?___ qt

3. 40 fl oz = ___?___ c

4. 32 oz = ___?___ lb

5. 4 pt = ___?___ c

6. 16 pt = ___?___ qt

7. $2\frac{1}{2}$ pt = ___?___ c

8. 6 c = ___?___ pt

9. $1\frac{1}{2}$ T = ___?___ lb

10. 44 qt = ___?___ gal

11. $3\frac{3}{4}$ pt = ___?___ c

12. 3 gal = ___?___ pt

13. 10,000 lb = ___?___ T

14. 2 T = ___?___ oz

15. $1\frac{1}{2}$ qt = ___?___ c

16. $3\frac{1}{2}$ c = ___?___ fl oz

17. 96 oz = ___?___ lb

18. 64 fl oz = ___?___ c

19. 32,000 oz = ___?___ T

20. $2\frac{1}{2}$ lb = ___?___ oz

21. 11 qt = ___?___ gal

Choose the better estimate for each measure.

22. the weight of a bag of potatoes: 5 tons or 5 pounds

23. the amount of water in a sports bottle: 16 fluid ounces or 4 pints

24. the weight of an apple: $\frac{1}{2}$ pound or 32 ounces

Lesson 12–2

NAME _____ DATE _____ PERIOD ____

12-2 Study Guide and Intervention

Capacity and Weight in the Customary System

The most commonly used customary units of capacity are shown below.

Customary Units Of Capacity	
Unit	**Model**
1 **fluid ounce** (fl oz)	2 tablespoons of water
1 **cup** (c) = 8 fl oz	coffee cup
1 **pint** (pt) = 2 c	small ice cream container
1 **quart** (qt) = 2 pt	large measuring cup
1 **gallon** (gal) = 4 qt	large plastic jug of milk

- To change from larger units of length to smaller units, multiply.
- To change from smaller units of length to larger units, divide.

EXAMPLE 1 **Complete.**

2 gal = __?__ qt THINK 1 gallon = 4 quarts

$2 \times 4 = 8$ Multiply to change a larger unit to a smaller unit.

So, 2 gallons = 8 quarts.

The most commonly used customary units of weight are shown below.

Customary Units Of Weight	
Unit	**Model**
1 **ounce** (oz)	pencil
1 **pound** (lb) = 16 oz	package of notebook paper
1 **ton** (T) = 2,000 lb	small passenger car

EXAMPLE 2 FOOD **A box of cereal weighs 32 ounces. How many pounds is this?**

32 oz = __?__ lb THINK 16 ounces = 1 pound

$32 \div 16 = 2$ Divide to change ounces to pounds.

So, 32 ounces = 2 pounds.

EXERCISES

Complete.

1. 2 pt = __?__ c
2. 32 fl oz = __?__ c
3. 3 lb = __?__ oz
4. 16 qt = __?__ gal
5. $1\frac{1}{2}$ qt = __?__ pt
6. 3 T = __?__ lb
7. 16 c = __?__ qt
8. 2 gal = __?__ pt
9. 64 oz = __?__ lb

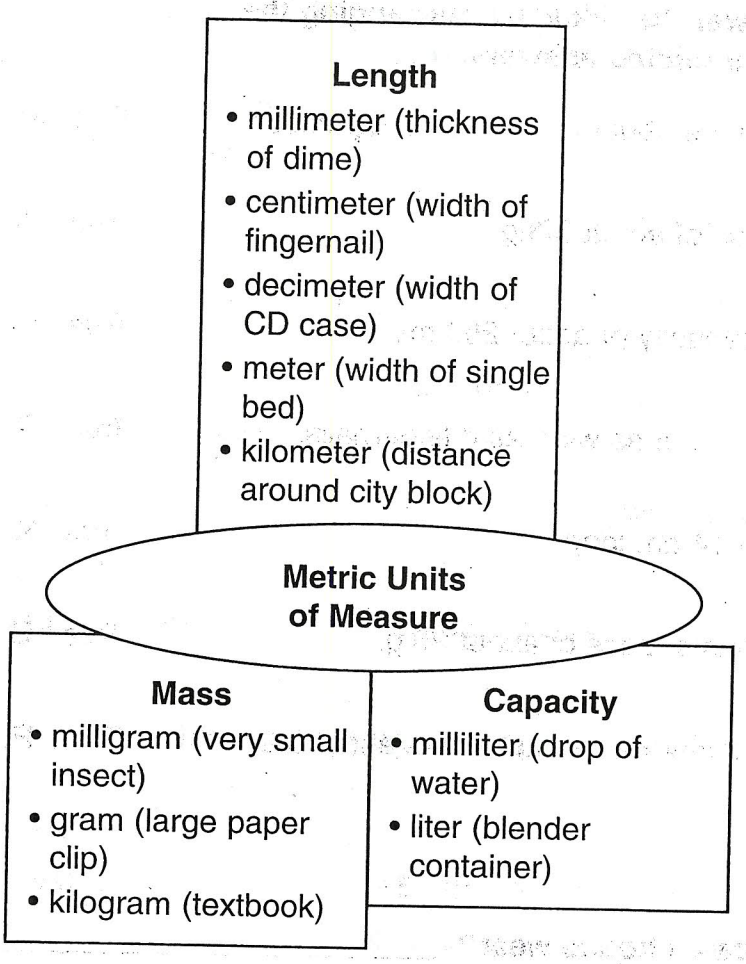
Name _____ Date _____ Class _____

LESSON 9-2

Reading Strategies

Use a Graphic Organizer

This graphic organizer will help you learn about the metric units of measure.



Use the graphic organizer to answer each question.

1. Which unit of length is the longest? _____
2. Which unit of mass is heavier than a milligram but lighter than a kilogram? _____
3. Which unit of capacity is the greatest? _____
4. Which unit of length is about as wide as a CD case? _____
5. Which unit of capacity is about the same as a drop of water? _____
6. Which unit of mass is about the mass of a textbook? _____

Name _____ Date _____ Class _____

LESSON 9-2

Puzzles, Twisters & Teasers

House Wear

Decide if each statement is true or false, and circle your answer. Answer the riddle by rearranging the letters next to your circled answers.

1. A piece of paper is about as wide as 3 CD cases. True **M** False **D**

2. A fly has a mass of about 3 mg. True **A** False **C**

3. A mug has a capacity of about 250 mL True **R** False **O**

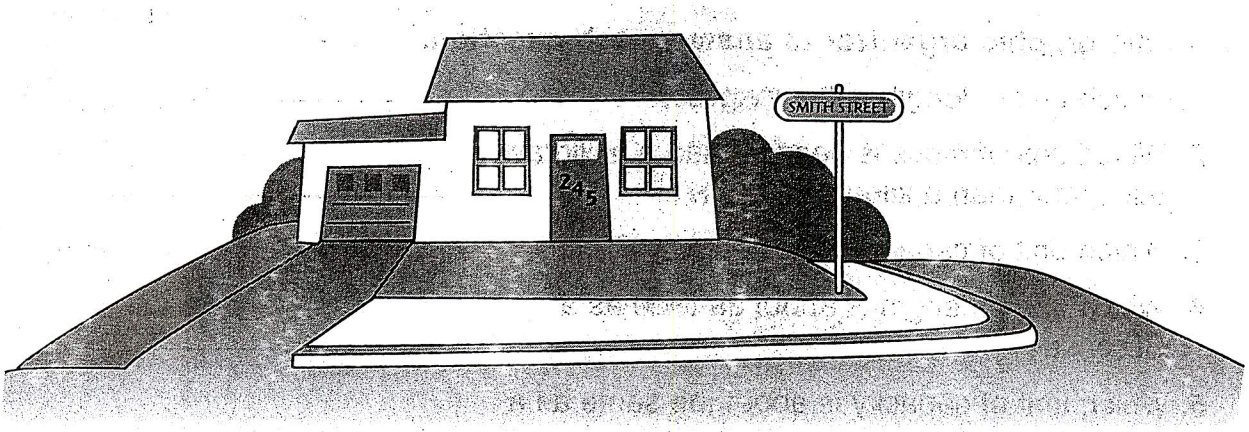
4. A calculator is about as wide as 8 fingernails. True **S** False **P**

5. A pen is about 14 dm long. True **K** False **D**

6. A cell phone has a mass of about 20 g. True **E** False **F**

7. A blender container has a capacity of about 5 L. True **R** False **S**

What clothing does a house wear? _____



NAME _____ DATE _____ PERIOD ____

12-3 Study Guide and Intervention

Length in the Metric System

The meter is the basic unit of length in the metric system. The most commonly used metric units of length are shown below.

Metric Units of Length		
Unit	**Model**	**Benchmark**
1 **millimeter** (mm)	thickness of a dime	25 mm ≈ 1 inch
1 **centimeter** (cm)	half the width of a penny	2.5 cm ≈ 1 inch
1 **meter** (m)	width of a doorway	1 m ≈ 1.1 yard
1 **kilometer** (km)	six city blocks	1.6 km ≈ 1 mile

EXAMPLES **Write the metric unit of length that you would use to measure each of the following.**

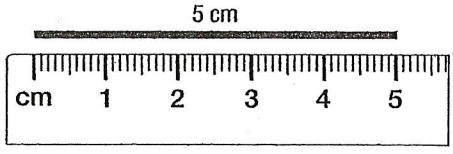
1 **height of a box of popcorn**

The height of a box of popcorn is more than the width of a penny, but less than the width of a doorway. So, the centimeter is an appropriate unit of measure.

2 **length of a car**

Since the length of a car is greater than the width of a doorway, but less than six city blocks, the meter is an appropriate unit of measure.

EXAMPLE 3 **Measure the length of the line segment in centimeters.**



The line segment is 5 cm.

EXERCISES

Write the metric unit of length that you would use to measure each of the following.

1. height of a mountain
2. thickness of a dried bean
3. length of a pen
4. height of a table

Measure each line segment in centimeters and millimeters.

5. _____
6. _____
7. _____
8. _____

Lesson 12–3

NAME _____ DATE _____ PERIOD ____

12-3

Practice: Skills

Length in the Metric System

Write the metric unit of length you would use to measure each of the following.

1. depth of an ocean

2. length of an eyelash

3. length of your bedroom

4. length of the Panama Canal

5. height of a can of soup

6. depth of a swimming pool

7. length of the eye of a needle

8. height of a washing machine

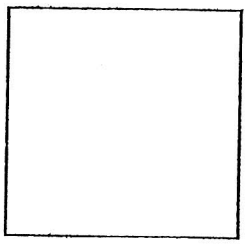
9. length of a pencil

10. width of a pencil

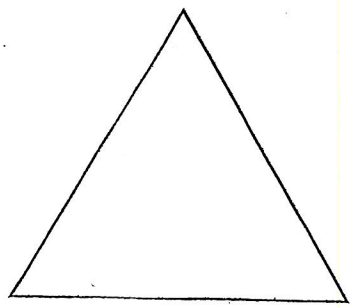
Measure each line segment or side of each figure in centimeters and millimeters.

11.

12. 

13. 

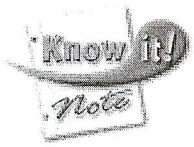
14. 

15. 

16.

LESSON 9-4

Converting Metric Units



Lesson Objectives

Convert metric units of measure

Additional Examples

Example 1

The high-jumper cleared a height of 1.75 m. How many centimeters is this height?

1.75 m = ____ cm

Think: Meter to centimeter is going from a [ ] unit to a [ ] unit. A centimeter is [ ] places to the right of meter in the chart, so 10 • 10 or 10^2 = [ ].

1.75 m = (1.75 • [ ]) cm

1 m = [ ] cm. You are converting a [ ] unit to a [ ] unit, so [ ] by 100.

1.75 m = [ ] cm

Move the decimal point [ ] places to the right.

Example 2

Convert.

A. The CD case is 14 cm wide. 14 cm = ____ m

14 cm = (14 ÷ [ ]) m

[ ] cm = [ ] m, [ ] unit to [ ] unit, so [ ] by [ ].

14 cm = [ ] m

Move the decimal point [ ] places to the [ ].

B. The ball of clay has a mass of 4 kg. 4 kg = ____ g

$4 \text{ kg} = (4 \cdot \square)\ \text{g}$

$\square$ kg = $\square$ g, $\square$

unit to $\square$ unit, so

$\square$ by $\square$.

$4 \text{ kg} = \square\ \text{g}$

Move the decimal point $\square$ places to the $\square$.

Example 3

Convert.

A. Method 1: Use a conversion factor.

16 m = ____ cm

Think: 1 m = $\square$ cm, so use $\frac{\square \text{ cm}}{1 \text{ m}}$.

$16 \text{ m} \times \frac{\square \text{ cm}}{1 \text{ m}} = \square \text{ cm}$

Multiply by the conversion factor.

Cancel the common unit, $\square$.

B. Method 2: Use proportions.

450 g = ____ kg

$\frac{450 \text{ g}}{x \text{ kg}} = \frac{1{,}000 \text{ g}}{1 \text{ kg}}$

Write a proportion.

$1{,}000\square = \square$

The cross products are equal.

$x = \square$ kg

Divide both sides by $\square$ to undo the multiplication.

Name _____
Class Period _____
Date _____

Conversion of Metric and Customary Units

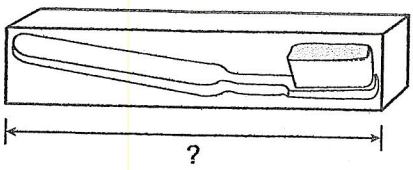
1. 130 centimeters = _____ meters
2. 2 cups = _____ pints
3. 4,000 pounds = _____ tons
4. 1.5 liters = _____ milliliters
5. 1000 grams = _____ kilograms
6. 32 ounces = _____ pounds
7. 6 feet = _____ yards
8. 3 yards = _____ feet
9. 4 quarts = _____ pints
10. 2 pints = _____ cups

NAME _____ DATE _____ PERIOD ____

12-3 Practice: Word Problems

Length in the Metric System

TRAVEL For Exercises 1 and 2, use the figures below.



1. Gabe is going on a trip to San Diego. He is taking a tube of toothpaste and a toothbrush holder. How long is the tube of toothpaste in centimeters and in millimeters?	**2.** How long is the toothbrush holder in centimeters and in millimeters?
3. SWIMMING Harry takes diving lessons at the community pool. He is trying to estimate the depth of the deepest part of the pool. Which is the most likely estimate: 3.5 centimeters, 3.5 meters, or 3.5 kilometers? Explain.	**4. INSECTS** Michaela is an entomologist, a scientist who studies insects. When she measures the length of the leg of a fly, what metric unit of measure does she most likely use?
5. SCHOOL Roshawn rides his bike $2\frac{1}{2}$ miles to and from school. What type of measurement would he use if he were to convert the distance to metric units? Explain.	**6. BRIDGES** Paula noticed an error in the following statement, "The Golden Gate Bridge in San Francisco, California, is the second longest suspension bridge in North America spanning 1,260 kilometers." What is the error Paula found? Explain.

Lesson 12–3