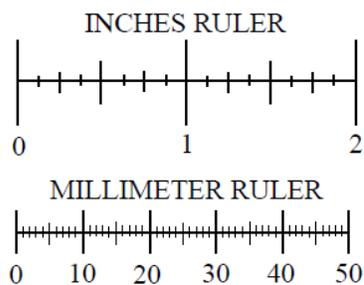# Measurement/Volume and Surface Area
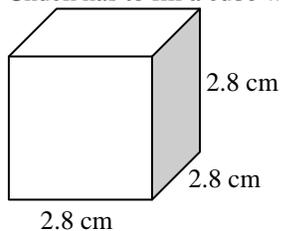
Long-Term Memory Review – Grade 7

<u>Review 1</u>

1. Explain how to convert from a larger unit of measurement to a smaller unit of measurement. Include what operation(s) would be used to make the conversion.

2. What basic metric unit would be used to measure the mass of a paper clip? _____

3. Jose poured two glasses of water. The first glass measured 1 cup. The second glass measured 1 liter. Which glass had more liquid? Explain your answer.

4. Use a blank piece of paper to transfer and find the measure of the object to the nearest millimeter. Use the ruler provided.

    INCHES RULER

    MILLIMETER RULER

5. Chuck has to fill a cube with sides 2.8 cm. What is the volume of the cube in cubic centimeters?

    2.8 cm

    2.8 cm

    2.8 cm

6. Chuck also needs to paint the outside of the cube above. What is the surface area of the cube in square centimeters?
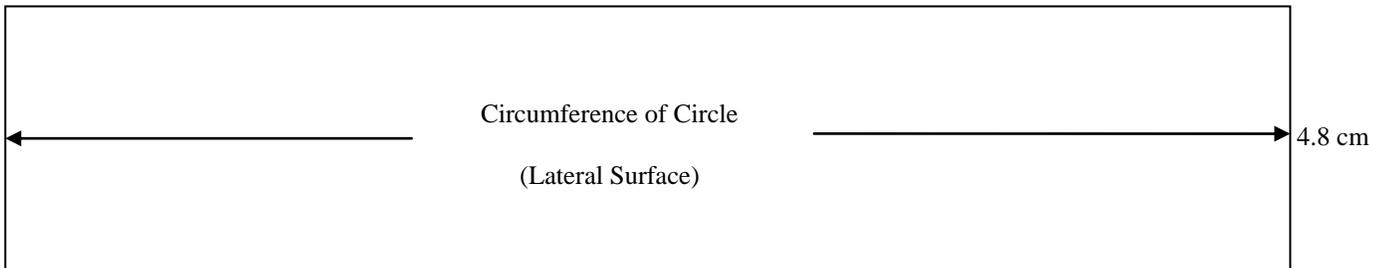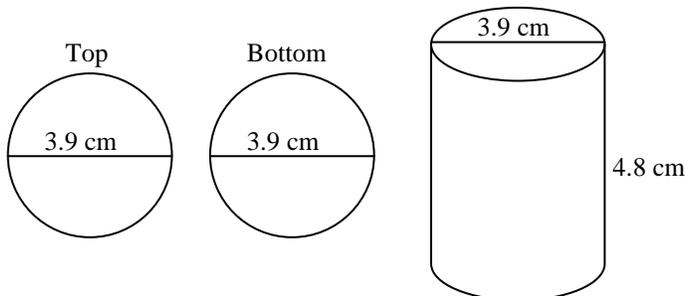
Measurement/Volume and Surface Area

1. Explain how to convert from a centimeter to a meter in the metric system. Include what operation(s) would be used to make the conversion.

2. What basic metric unit would be used to measure the amount of milk in a large cereal bowl? _____

3. Use a blank piece of paper to transfer and find the measure of the object to the nearest eighth of an inch. Use the ruler provided.

INCHES RULER

0   1   2

MILLIMETER RULER

0   10   20   30   40   50
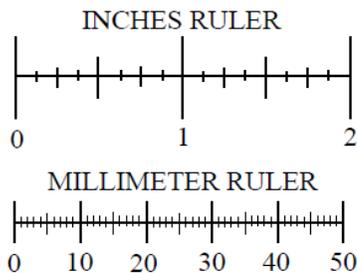
4. One ounce of orange juice contains 29.6 centiliters. How many liters of juice are in one ounce?

A) 0.00296 liters   B) 0.296 liters   C) 29.6 liters   D) 296 liters

5. For an art class project, Lynn is asked to paint a cylinder including the top and bottom. Estimate the surface area of the cylinder including the top and bottom parts to the nearest square centimeter.

Top   Bottom   3.9 cm

3.9 cm   3.9 cm

4.8 cm

Circumference of Circle
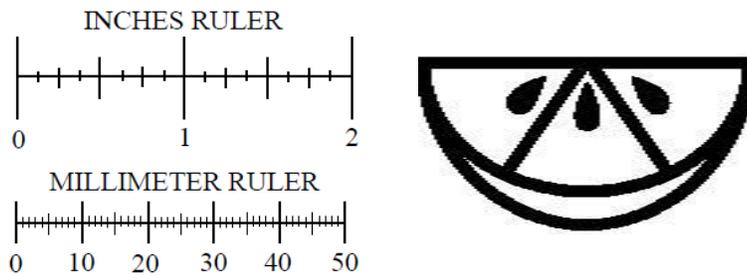
(Lateral Surface)   4.8 cm
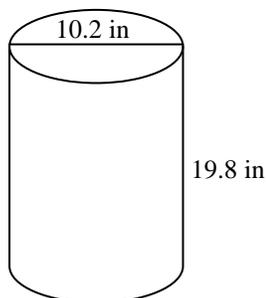
Measurement/Volume and Surface Area

Long-Term Memory Review – Grade 7
Review 3

1. Explain how to convert from yards to feet in customary units. Include what operation(s) would be used to make the conversion.

2. What customary unit of measure would be used to measure a person's weight? _____

3. Julie and Kelly weighed themselves during gym class. Julie weighed herself at 100 pounds. Kelly weighed herself at 50 kilograms. Which girl weighs more? Explain your reasoning.

4. Use a blank piece of paper to transfer and find the measure of the object to the nearest millimeter. Use the ruler provided.

INCHES RULER

0   1   2

MILLIMETER RULER

0   10   20   30   40   50

5. One mile of road is equal to 1.61 kilometers. How many meters of road are equal to one mile?

   A) 0.0161 meters   B) 161.0 meters   C) 1610 meters   D) 16,100 meters

6. Becky has to fill a cylinder with sand. Estimate the volume of the cylinder.

10.2 in

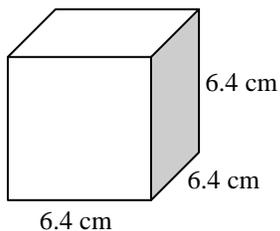19.8 in

Measurement/Volume and Surface Area

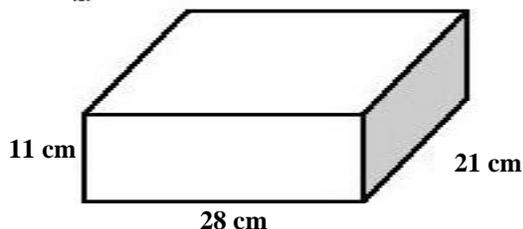Long-Term Memory Review – Grade 7

Review 4

1. Explain how to convert from millimeters to meters in metric units. Include what operation(s) would be used to make the conversion.

2. What metric unit would be used to measure the mass of a sack of 50 potatoes? _____

3. Jim ran around a track on two separate days. The first day he measured his distance in customary units, and it measured 2.5 miles. On the second day, he measured his distance in metric units, and the trip measured 3 kilometers. Which day did he run the farthest? Explain your reasoning.

4. Use a blank piece of paper to transfer and find the measure of side *a* of the triangle below. Measure the length to the nearest one-eighth of an inch. Use the ruler provided.

INCHES RULER

MILLIMETER RULER

a
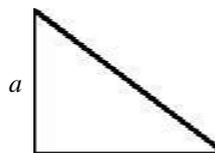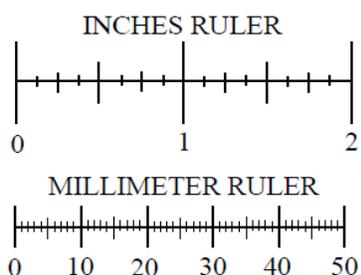
5. A full gallon of milk contains 3.8 liters. How many milliliters of milk are in a full gallon?

A) 380 milliliters   B) 3,800 milliliters   C) 38,000 milliliters   D) 380,000 milliliters

6. Charlie has to fill a cube with sides 6.4 cm. What is the volume of the cube?

6.4 cm

6.4 cm

6.4 cm

7. Judy is to wrap a birthday gift with the dimensions shown below. How many square centimeters of wrapping paper will be required to cover the gift? (Note: Only measure the amount of exposed paper. Do not include flaps that would be tucked on the sides.)

11 cm

21 cm

28 cm

Measurement/Volume and Surface Area
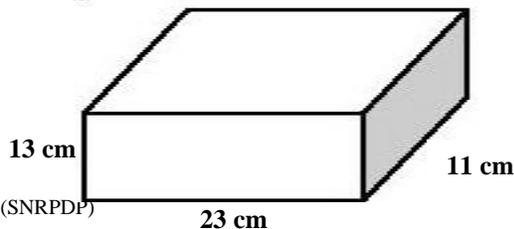
Long-Term Memory Review – Grade 7
Quiz

1. Explain how to convert from a smaller unit of measurement to a larger unit of measurement. Include what operation(s) would be used to make the conversion.

2. Which metric unit would be used to best measure the width of a student desk? _____

   A. millimeters   B. centimeters   C. hectometers   D. kilometer

3. Jim ran around a track on two separate days. The first day he measured his distance in customary units, and it measured 1 mile. On the second day, he measured his distance in metric units, and the trip measured 1 kilometer. Which day did he run the farthest? Explain your reasoning.

4. Use a blank piece of paper to transfer and find the measure of the following object to the nearest one-eighth of an inch. Use the ruler provided.

   INCHES RULER

   0   1   2

   MILLIMETER RULER

   0   10   20   30   40   50
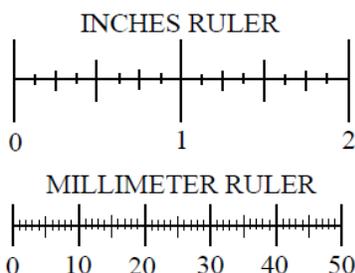
5. A full gallon of milk contains 3.8 liters. How many millimeters of milk are in a half gallon?

6. Charlie has to fill a cube with sides 9.4 cm. What is the best estimate of the volume of the cube?

   A) 486 cm^3 B) 634 cm^3 C) 729 cm^3 D) 1000 cm^3

   9.4 cm
   9.4 cm
   9.4 cm
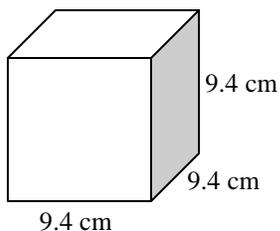
7. Sally is to wrap a birthday gift with the dimensions shown below. How many square inches of wrapping paper will be required to cover the gift? (Note: Only measure the amount of exposed paper. Do not include flaps that would be tucked on the sides.)

   13 cm
   11 cm
   23 cm

Measurement/Volume and Surface Area

Long-Term Memory Review – Grade 7

Answers

Review 1- Answers

1) Multiply by the conversion rate, or by the number of smaller units per 1 larger unit
2) gram
3) The second glass with 1 liter. 1 qt. = 4 c. If a qt. is approximately equal to a liter, then 1 cup is significantly less.
4) 47 mm
5) 21.952 cm^3
6) 47.04 cm^2

Review 2- Answers

1) Divide by the conversion rate, or by the number of smaller units per 1 larger unit, in this case 100.
2) milliliters
3) $1\dfrac{6''}{8} = 1\dfrac{3''}{4}$
4) B
5) ≈ 154 cm^2

Review 3- Answers

1) Multiply by the conversion rate, or by the number of smaller units per 1 larger unit, in this case 3.
2) pounds
3) 1 kilogram = 2.2 pounds. Kelly weighs 50 kg = 110 lbs. Kelly weighs more.
4) 44 mm
5) C
6) 1500 in^3

Review 4- Answers

1) Divide by the conversion rate, or by the number of smaller units per 1 larger unit, in this case 1000.
2) kilograms
3) 1 km = 0.62 mi. 3 km = 1.86 mi. He ran farther on the first day.
4) $\dfrac{6''}{8} = \dfrac{3''}{4}$
5) B
6) 262.144 cm^3
7) 2254 cm^2

Quiz- Answers

1) Divide by the conversion rate, or by the number of smaller units per 1 larger unit.
2) B
3) 1 km = 0.62 mi. He ran farther on the first day.
4) $1\dfrac{1''}{8}$
5) 1900 ml
6) C
7) 2110 in^2