

# NCTM Content Standards Assessment Rubric

## Measurement – Drill Sheets

Student's Name: \_\_\_\_\_ Assignment: \_\_\_\_\_ Level: \_\_\_\_\_

	Level 1	Level 2	Level 3	Level 4
<b>Understanding Measurable Attributes of Objects and the Units, Systems, and Processes of Measurement</b>	<ul style="list-style-type: none"> <li>Demonstrates a limited understanding of measurable attributes of objects and the units, systems, and processes of measurement</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrates a basic understanding of measurable attributes of objects and the units, systems, and processes of measurement</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrates a good understanding of measurable attributes of objects and the units, systems, and processes of measurement</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrates a thorough understanding of measurable attributes of objects and the units, systems, and processes of measurement</li> </ul>
<b>Applying Appropriate Techniques, Tools, and Formulas to Determine Measurements</b>	<ul style="list-style-type: none"> <li>Demonstrates limited ability in applying appropriate techniques, tools, and formulas to determine measurements</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrates some ability in applying appropriate techniques, tools, and formulas to determine measurements</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrates satisfactory ability in applying appropriate techniques, tools, and formulas to determine measurements</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrates strong ability in applying appropriate techniques, tools, and formulas to determine measurements</li> </ul>

**WEAKNESSES:**

**STRENGTHS:**

**NEXT STEPS:**

SAMPLE



**16a)** The table below shows the measurements between cities on a map. The scale for the map is 1 inch = 25 miles (1 cm = 16 km). Write the number of miles (km) that are located between the two cities in the fourth column.



	Start City	End City	Measurement (in/cm)	Actual Miles/Km
Ex:	Hamilton	Carsonville	1.5 inches (3.8 cm)	37.5 miles (60.8 km)
i)	Hamilton	Marlboro	1.75 inches (4.5 cm)	
ii)	Hamilton	Manchester	2.25 inches (5.7 cm)	
iii)	Carsonville	Wooddale	2.5 inches (6.4 cm)	
iv)	Carsonville	Marlboro	2.75 inches (7 cm)	
v)	Carsonville	East Lehigh	3.25 inches (8.3 cm)	
vi)	Manchester	Marlboro	3.5 inches (8.9 cm)	
vii)	Manchester	Wooddale	3.75 inches (9.5 cm)	
viii)	Manchester	Sun City	4 inches (10.2 cm)	
ix)	Marlboro	Wooddale	4.15 inches (10.5 cm)	
x)	Marlboro	Sun City	4.25 inches (10.8 cm)	
xi)	Marlboro	Paradise Valley	4.5 inches (11.4 cm)	
xii)	Paradise Valley	East Lehigh	4.75 inches (12 cm)	
xiii)	Paradise Valley	Sun City	5 inches (12.7 cm)	
xiv)	Paradise Valley	Silicon	5.2 inches (13.2 cm)	
xv)	Silicon	Marlboro	5.5 inches (14 cm)	
xvi)	Silicon	Sun City	5.75 inches (14.6 cm)	
xvii)	Silicon	Carsonville	6.2 inches (15.8 cm)	
xviii)	Sun City	Wooddale	6.25 inches (15.9 cm)	
xix)	Sun City	East Lehigh	6.75 inches (17.2 cm)	
xx)	Sun City	Albertville	7.5 inches (19 cm)	

SAMPLE

NAME: \_\_\_\_\_



# Review B

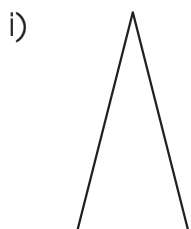
## a) Convert the following measurements.

- i) 2.57 cm = \_\_\_\_\_ mm    ii) 4.5 ft = \_\_\_\_\_ in    iii) 12.5 gal = \_\_\_\_\_ cups  
iv) 5.5 km = \_\_\_\_\_ cm    v) 24 oz = \_\_\_\_\_ lbs    vi) 0.5 kL = \_\_\_\_\_ L  
vii) 138 in = \_\_\_\_\_ ft    viii) 175 mm = \_\_\_\_\_ cm    ix) 30 qt = \_\_\_\_\_ gallons  
x) 19.27 mg = \_\_\_\_\_ g    xi) 28.5 oz = \_\_\_\_\_ lbs    xii) 29.25 kg = \_\_\_\_\_ g  
xiii) 22.5 ft = \_\_\_\_\_ in    xiv) 0.025 kL = \_\_\_\_\_ L    xv) 2.5 tons = \_\_\_\_\_ oz

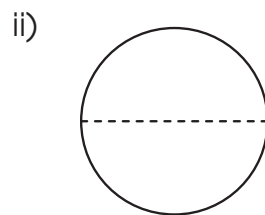
## b) Answer the following quick measurement questions.

- i) Carlos measured the temperature on a cold winter day at  $-3^{\circ}\text{F}$ . What was the temperature in Celsius? \_\_\_\_\_
- ii) A regular pentagon has a perimeter of 12 inches (30.5 cm). What is the measure of each side? \_\_\_\_\_
- iii) Dionne weighed herself and determined she was 85.25 pounds (38.67 kilograms). How many ounces (grams) did she weigh? \_\_\_\_\_
- iv) Wan took a car trip with his family. They traveled close to 158.5 miles (255 km) before arriving at their destination after three days. What was the average amount of miles (km) they traveled each day? \_\_\_\_\_
- v) A box has a length of 3 inches (8 cm), width of 2 inches (5 cm), and a height of 2.5 inches (7 cm). What is the volume of the box? \_\_\_\_\_

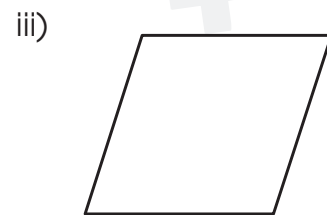
## c) Use a ruler to measure the objects below. Find the perimeter or circumference for each object.



Perimeter = \_\_\_\_\_



Circumference = \_\_\_\_\_



Perimeter = \_\_\_\_\_

# Surface Area of a Rectangular Prism



Obtain a box or other rectangular prism. Working alone or in a small group, devise a plan to determine the surface area of the box without measuring any of the sides.



Then, do the following.

1. Explain your plan.  
\_\_\_\_\_  
\_\_\_\_\_
2. Test your plan. Did it work? \_\_\_\_\_
3. Take measurements of your box. Make a list to identify the main measurements needed for your box. \_\_\_\_\_
4. Calculate the surface area of the box. \_\_\_\_\_
5. Compare the surface area you determined by your calculations to the surface area you determined by using your plan. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. Write your findings in a reorganized paragraph.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
7. Draw a diagram of your box. Label all of the essential measurements you took to determine the surface area.

