NCTM Content Standards Assessment Rubric

Measurement – Drill Sheets

Student's Name: _____ Assignment: _____ Level: _____

	Level 1	Level 2	Level 3	Level 4
Understanding Measurable Attributes of Objects and the Units, Systems, and Processes of Measurement	• Demonstrates a limited understanding of measurable attributes of objects and the units, systems, and processes of measurement	• Demonstrates a basic understanding of measurable attributes of objects and the units, systems, and processes of measurement	• Demonstrates a good understanding of measurable attributes of objects and the units, systems, and processes of measurement	• Demonstrates a thorough understanding of measurable attributes of objects and the units, systems, and processes of measurement
Applying Appropriate Techniques, Tools, and Formulas to Determine Measurements	• Demonstrates limited ability in applying appropriate techniques, tools, and formulas to determine measurements	• Demonstrates some ability in applying appropriate techniques, tools, and formulas to determine measurements	• Demonstrates satisfactory ability in applying appropriate techniques, tools, and formulas to determine measurements	• Demonstrates strong ability in applying appropriate techniques, tools, and formulas to determine measurements

SAMPLE

STRENGTHS:

WEAKNESSES:

NEXT STEPS:

4a) **Look at the chart below. It shows the measurements of the sides of a triangle. Determine the perimeter of each triangle. Then, find the perimeter of each triangle if the measurements of each side are doubled.**

Triangle	Side 1	Side 2 (base)	Side 3	Height	Perimeter	Perimeter if sizes are doubled
i)	3 in (7.5 cm)	6 in (15 cm)	8 in (20 cm)	4 in (10 cm)		
ii)	1.5 in (4 cm)	3.5 in (9 cm)	1.5 in (4 cm)	2.8 in (7 cm)		
iii)	2 in (5 cm)	1.3 in (3 cm)	2.8 in (7 cm)	2 in (5 cm)		
iv)	2 in (5 cm)	7 in (17.8 cm)	12 in (30.5 cm)	8 in (20 cm)		
v)	2.8 in (7 cm)	5 in (12.5 cm)	2.5 in (6 cm)	4.3 in (11 cm)		
vi)	2.5 in (6 cm)	1.5 in (4 cm)	3.3 in (8.5 cm)	1.8 in (4.5 cm)		
vii)	2.2 in (5.5 cm)	1.5 in (4 cm)	4.7 in (12 cm)	3.7 in (9.5 cm)		
viii)	3 in (7.5 cm)	7 in (17.8 cm)	8 in (20 cm)	3 in (7.5 cm)		
ix)	1 in (2.5 cm)	2.3 in (6 cm)	1.3 in (3 cm)	3 in (7.5 cm)		
x)	1.5 in (4 cm)	3.3 in (8.5 cm)	2.5 in (6 cm)	3.2 in (8 cm)		
xi)	3 in (7.5 cm)	6 in (15 cm)	10 in (25.5 cm)	5 in (12.5 cm)		
xii)	1.5 in (4 cm)	3.7 in (9.5 cm)	4.7 in (12 cm)	3.5 in (9 cm)		
xiii)	3.5 in (9 cm)	1.8 in (4.5 cm)	3.2 in (8 cm)	2.5 in (6 cm)		
xiv)	3 in (7.5 cm)	7.5 in (19 cm)	3 in (7.5 cm)	5 in (12.5 cm)		
xv)	6 in (15 cm)	9 in (23 cm)	12 in (30.5 cm)	5 in (12.5 cm)		

Reflection

Redo the activity above by finding the area of each triangle. Then, find the area of each triangle if the measurements of each side and height are doubled.

Review A

a) Convert the following measurements.

i) 20 ft = _____ in

ii) 480 mm = _____ cm

iii) 176 oz = _____ lbs

iv) 500 m = _____ km

v) 72 ft = _____ yd

vi) 7.5 kL = _____ L

vii) 128 qts = _____ gallons

viii) 2.5 m = _____ cm

ix) 45 ft = _____ yd

x) 7 km = _____ mm

xi) 4.5 cup = _____ pt

xii) 12 L = _____ mL

xiii) 18.5 ft = _____ in

xiv) 29. 7 g = _____ mg

xv) 25 lbs = _____ oz

b) Answer the following quick measurement questions.

i) Jaime measured the temperature of a warm liquid. The temperature started at 72°F (22°C) and dropped 2.5 degrees every minute for three minutes. What was the temperature of the liquid after 3 minutes? _____

ii) A rectangle had an area of 2.5 square inches (16 square cm). What are two possible combinations for the length and width of the rectangle?
_____

iii) Tyrone ran a 5 mile (8 km) race. How many total feet (meters) did he run?
_____

iv) If a car weighs 2.5 tons, how many pounds (kilograms) does it weigh?
_____

v) A triangle has a base of 6 inches (150 mm) and a height of 1 inch (25.5 mm). What is the area of the triangle? _____

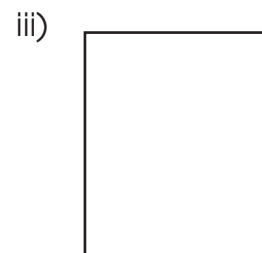vi) What is the perimeter of a square with a side measuring 3.5 inches (9 cm)?
_____

c) Use a ruler to measure the objects below. Find the area for each object.

i)

ii)

iii)
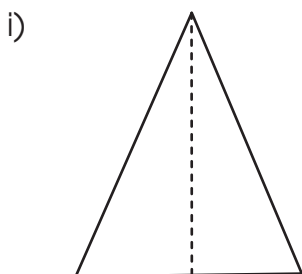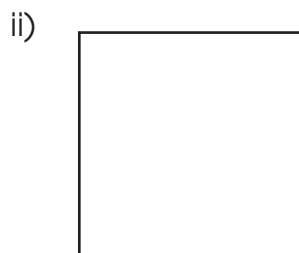
Area = _____

Area = _____

Area = _____

To Scale

Think about the layout of your school. In small groups, draw a map of your entire school to scale. If possible, work with others to determine the perimeter measurements of your school, as well as interior measurements. Then, working with a teacher or adult, complete the following.

– Select a scale in which to draw your map. For example, 1 inch (1 cm) on your map may equal 10 feet (1.2 meters) in your school. Label the scale on your drawing.
– Draw the perimeter of your school first. Make sure to label the perimeter on your map.
– Draw interior rooms on your map.
– Label the area of your school.
– Identify your classroom. Label the area of your classroom.
– Label important structures in your school.
– Find the perimeter of another room in your school. Make sure you have permission first.

When done, compare your drawings with those of your classmates. Which scale was easiest to work with? Which scale was most difficult? What complications arose in the development of the map?

First, as a class, draw the layout of your classroom below.