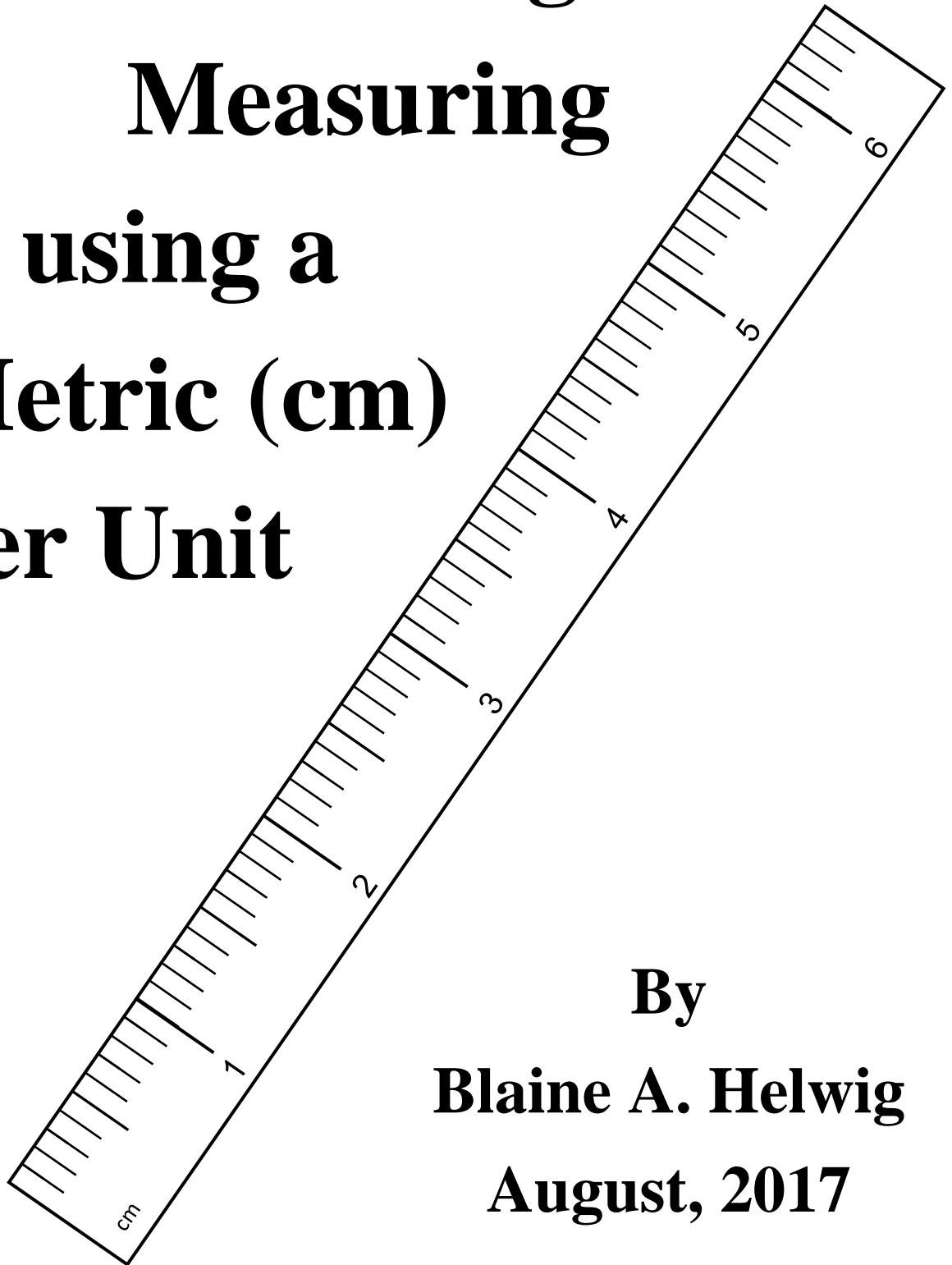


**Understanding,
Reading and
Measuring
using a
Metric (cm)
Ruler Unit**



**By
Blaine A. Helwig
August, 2017**

Executive Summary

Unlike a customary ruler, a metric ruler is relatively easy to use for reading, measuring and creating line segments. The Base 10 nature of the metric ruler makes converting to decimals or proper fraction or mixed numbers a direct and immediate conversion. Hence, a measurement of 0.4 centimeters or 4.6 centimeters is a fractional equivalency of $\frac{4}{10}$ and $4\frac{6}{10}$, respectively. A standard centimeter metric ruler is invariably parsed in tenths, so the conversion is always in fractional incremental units of tenths ($\frac{1}{10}$'s).

The metric ruler's lowest denominator of measure that elementary and middle school students will use in classroom work is millimeters. Consequently, the millimeters on a standard metric centimeter ruler will always be 'read' in whole numbers (e.g. 13 millimeters or 42 millimeters), so the transfer to centimeters will be a movement of the (Base 10) decimal point one place value digit to the left. For example, 3 millimeters, 14 millimeters and 47 millimeters is equivalent to 0.3 centimeters, 1.4 centimeters and 4.7 centimeters. Similarly, the conversion of centimeters to millimeters is the exact opposite. 6.2 centimeters, 0.9 centimeters and 3.4 centimeters converts to 62 millimeters, 9 millimeters and 34 millimeters, respectively – a movement of one (Base 10) decimal point place value to the right. For magnitude purposes, students can memorize that the vertical length of their small fingernail on their 'pinkie' finger is about 1 centimeter to estimate short linear metric centimeter measurements.

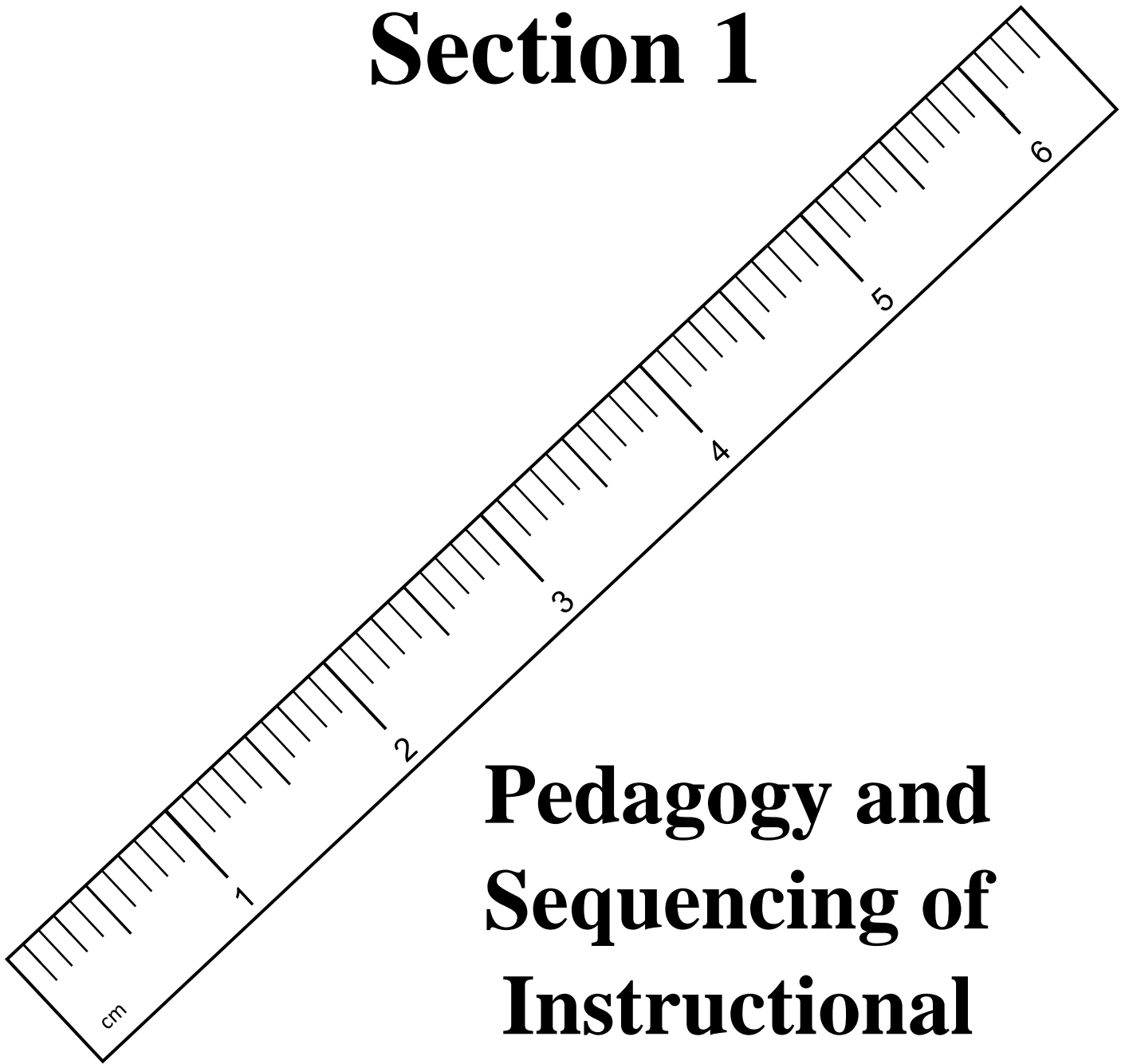
These conversions make the metric centimeter ruler exceedingly easy to use for elementary and middle school students in both mathematics and science classes. Again, unlike the standard American customary ruler unit, the overall length of the metric measurement unit is much shorter and requires much less instructional pedagogy for students to begin using a metric centimeter ruler. However, a basic pedagogy of this measurement unit is provided in Section 1 to assist and familiarize teachers in the instruction and sequencing of these metric measurement lessons.

UNDERSTANDING, READING & MEASURING USING A METRIC (cm) RULER

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Section 1



Pedagogy and Sequencing of Instructional Unit

Section 1

Pedagogy and Sequencing of Metric Centimeter (cm) Ruler Lessons

Section 2: Reproducible Metric Centimeter Ruler (Not to Scale)

This section provides a paper reproducible metric (centimeter) ruler that is parsed in centimeters with the smallest denomination in millimeters on that ruler. The teacher can use this reproducible paper ruler and explain the intricacies of the metric centimeter ruler. Specifically, the reason why millimeters and centimeters have an equivalency – meaning showing students 1 centimeter equals 10 millimeters. Further instruction should include choosing a point on the ruler and students write the number of millimeters and its centimeter measure equivalency (e.g. 34 millimeters = 3.4 centimeters – stressing the equal sign).

Section 3: Reading a Customary Ruler in both centimeters and millimeters

These exercises afford students practice reading a metric ruler in both millimeters and centimeters. Students should practice these sheets every day for short time periods until the skill is mastered. The teacher can readily fit this practice sheet after or before the daily core math lesson. After the first day's instruction, subsequent practice with these sheets can be completed in as little as 5 to 8 minutes per one practice sheet.

Section 4: Measuring with a Metric Ruler in both centimeters and millimeters

Time for the real thing...using a metric ruler. The teacher should visually check all the rulers that students will be using to ensure that they are in good, readable condition. It is best if all students have the exact same model of a metric ruler. It will make it easier if there are NOT small differences in the ruler manufacturers.

An important instructional tip to students is the importance of lining the ruler end point at the zero (0) mark and that the metric ruler is parallel to the line being measured. In doing so, then students may only concentrate on reading the metric ruler correctly. The teacher should model this process – talking aloud to communicate their thinking to the whole class during the direct teach AND the first examples of guided practice – prior to the students measuring independently. There are sufficient practice sheets to repeat this exercise. If all practice versions are completed, reuse the practice sheets. Generally speaking, students do not remember the measurement answers or the teacher can quickly create their own practice sheets, as needed.

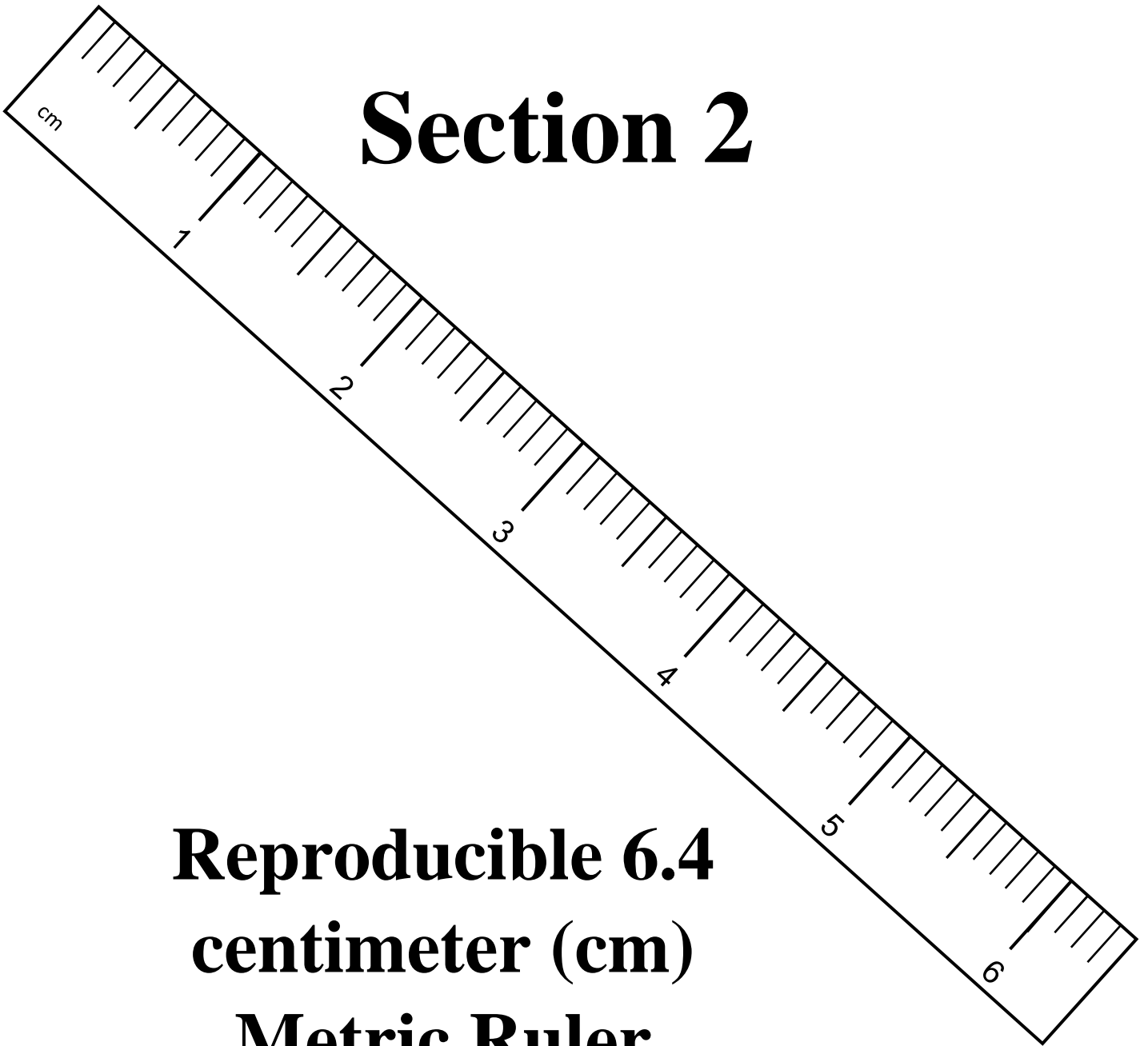
An extension of the above exercises after student mastery of reading and measuring using a metric ruler is CREATING a line segment of some desired length. This is an extremely important skill to master as well. I recommend using the “pretrained” student helpers’ technique to provide the teacher with as many as 5 to 6 competent student ‘teachers’ to quickly check each student’s work and assist their peers as needed.

Section 6: Measuring with a Customary Ruler to Compute Perimeter and Area – Application

Students must possess background knowledge in adding and multiplying both whole numbers and decimals as well as a fundamental understanding of the mathematical meanings and computational practice of both perimeter and area – with regard to parallelograms.

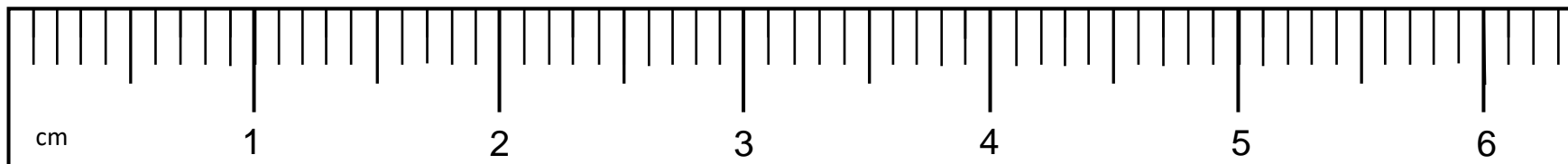
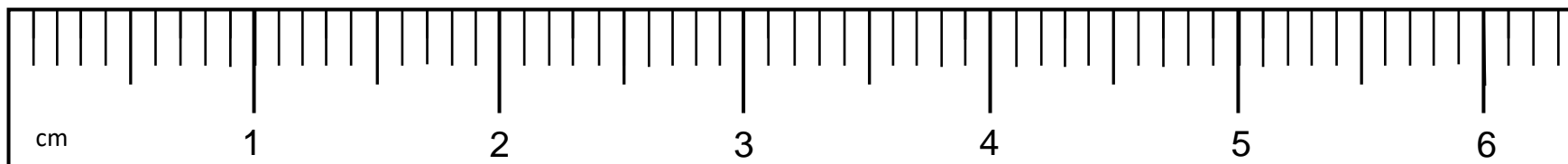
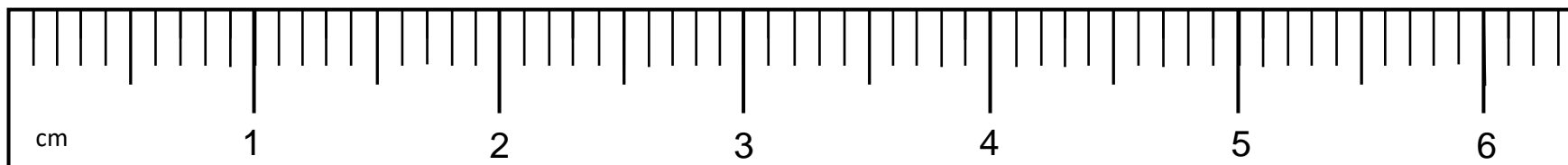
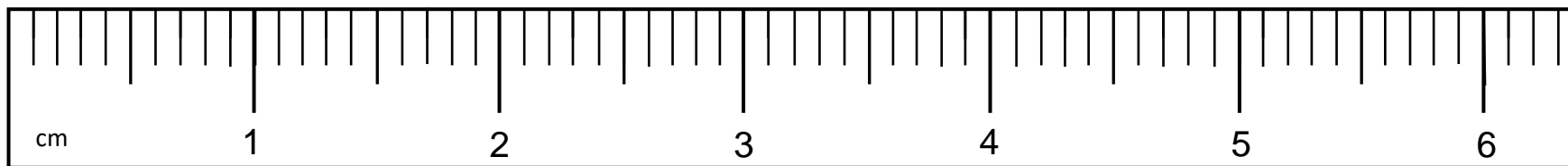
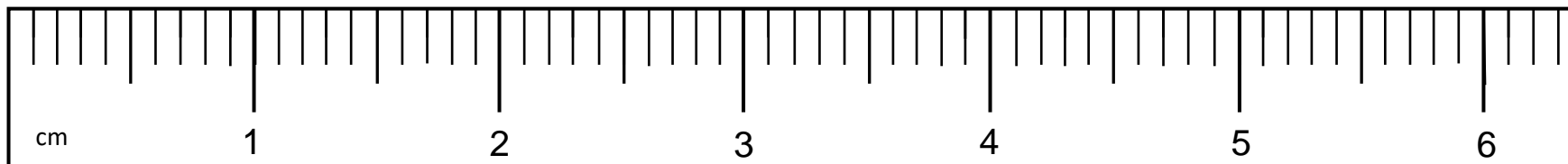
It is highly recommended that the teacher model this activity with the class sufficiently in both direct teach and guided practice – talking aloud to communicate the exact process to the students. Again, I recommend using the 5 or 6 student helpers that are ‘pretrained’ by the teacher, so the lesson can be completed quickly during the independent practice and all students receive competent assistance. The teacher can work with the students that struggle the most academically in these core content areas.

Section 2

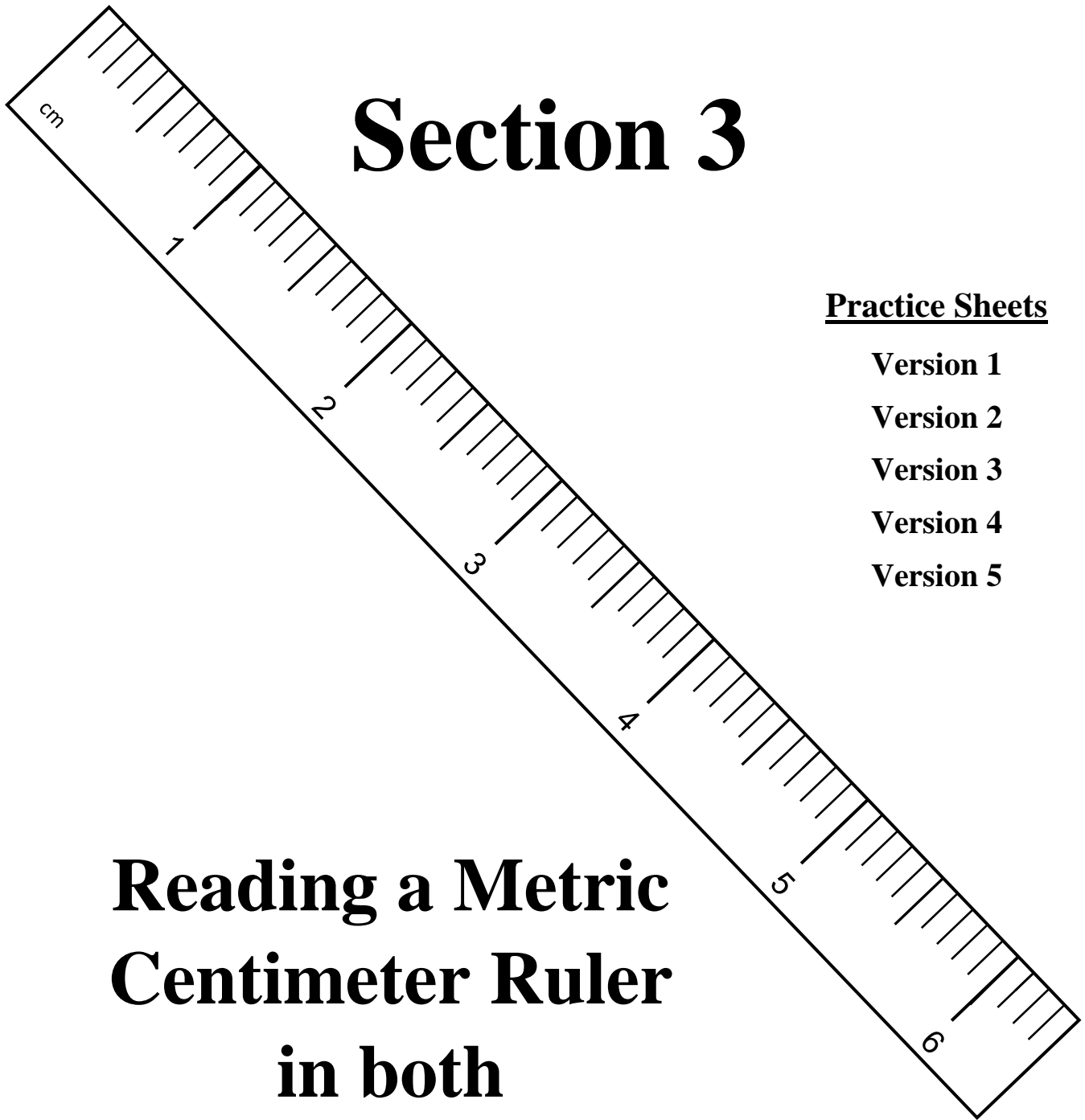


**Reproducible 6.4
centimeter (cm)
Metric Ruler
Not to Scale.**

Metric Ruler Model Reproducible – to 6.4 centimeters (cm)



Section 3



Practice Sheets

Version 1

Version 2

Version 3

Version 4

Version 5

**Reading a Metric
Centimeter Ruler
in both
Centimeters and
Millimeters**











Reading Metric Rulers in Equal Measurements of Millimeters and Centimeters

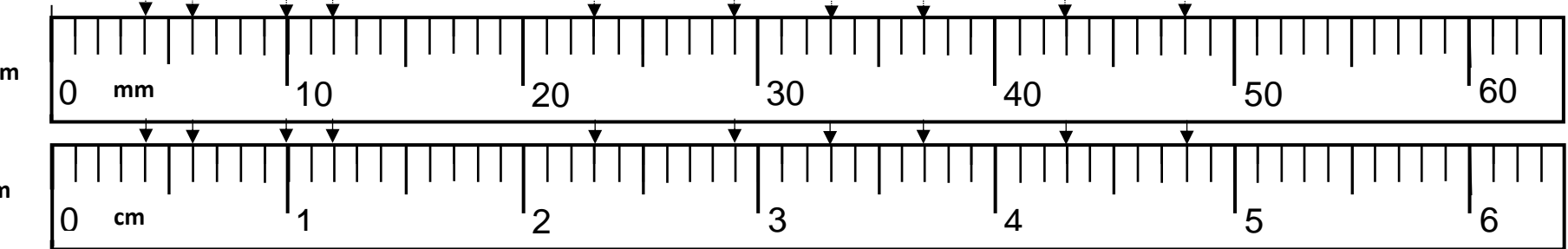
-- Version 1 --

-- Version 1 --

-- Version 1 --

Directions: Using the metric millimeter and centimeter rulers at the bottom of the page, measure the each line segment below and write the correct of the line provided at the right of the page. **REMEMBER:** 1 centimeter (cm) = 10 millimeters (mm).

1.		1. <u>48 mm = 4.8 cm</u>
2.		2. _____ = _____
3.		3. _____ = _____
4.		4. _____ = _____
5.		5. _____ = _____
6.		6. _____ = _____
7.		7. _____ = _____
8.		8. _____ = _____
9.		9. _____ = _____
10.		10. _____ = _____



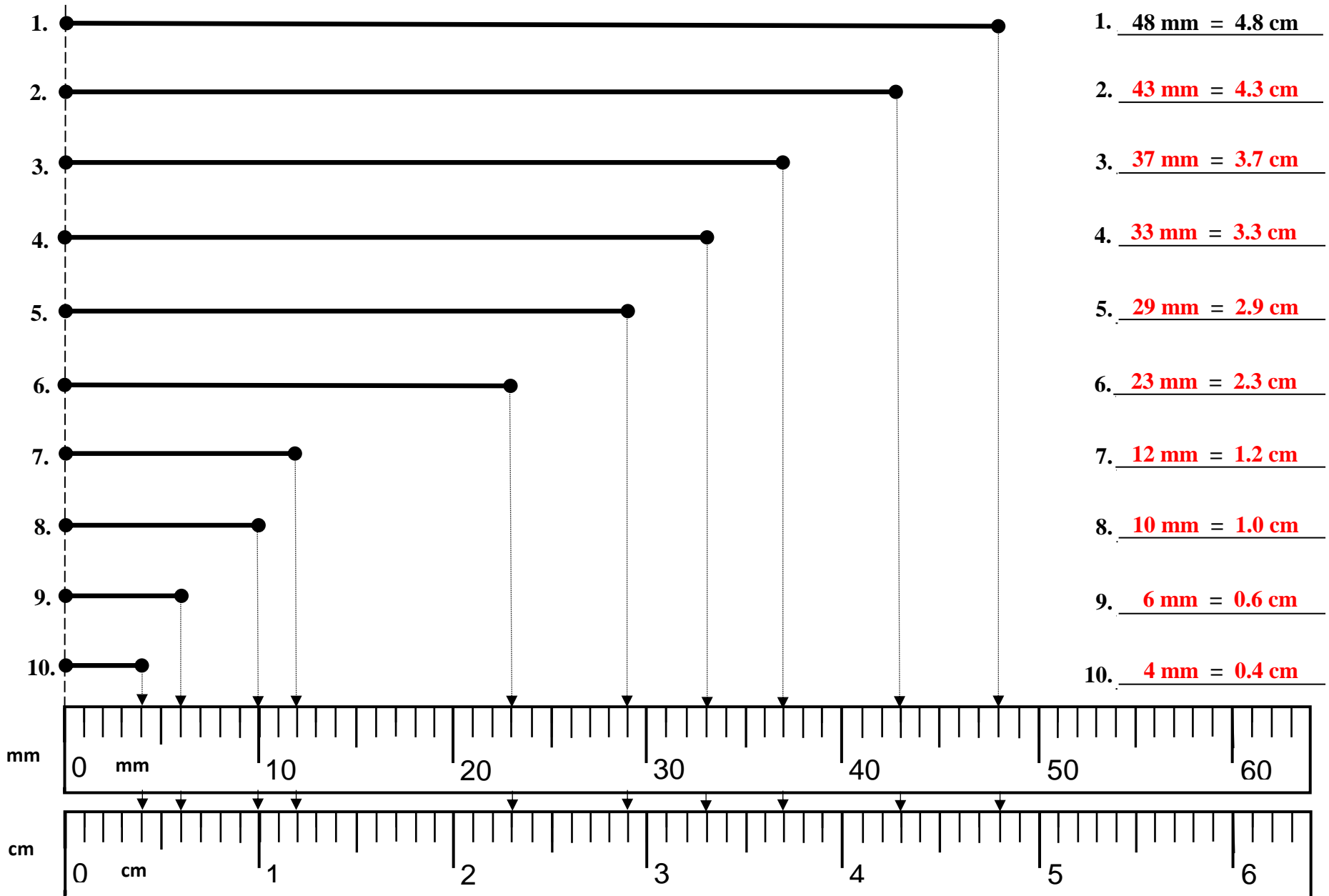
Reading Metric Rulers in Equal Measurements of Millimeters and Centimeters

-- Version 1 --

-- Version 1 --

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Directions: Using the metric millimeter and centimeter rulers at the bottom of the page, measure the each line segment below and write the correct of the line provided at the right of the page. **REMEMBER:** 1 centimeter (cm) = 10 millimeters (mm).













Reading Metric Rulers in Equal Measurements of Millimeters and Centimeters

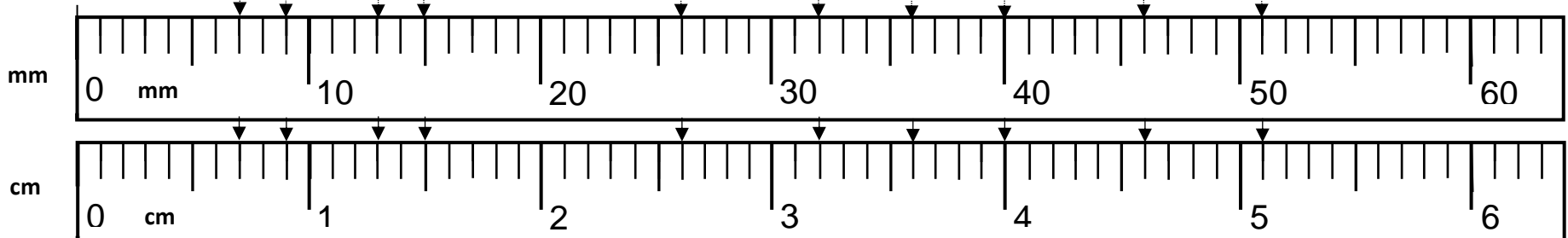
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Directions: Using the metric millimeter and centimeter rulers at the bottom of the page, measure the each line segment below and write the correct of the line provided at the right of the page. **REMEMBER:** 1 centimeter (cm) = 10 millimeters (mm).

1.		1. <u>51 mm = 5.1 cm</u>
2.		2. _____ = _____
3.		3. _____ = _____
4.		4. _____ = _____
5.		5. _____ = _____
6.		6. _____ = _____
7.		7. _____ = _____
8.		8. _____ = _____
9.		9. _____ = _____
10.		10. _____ = _____



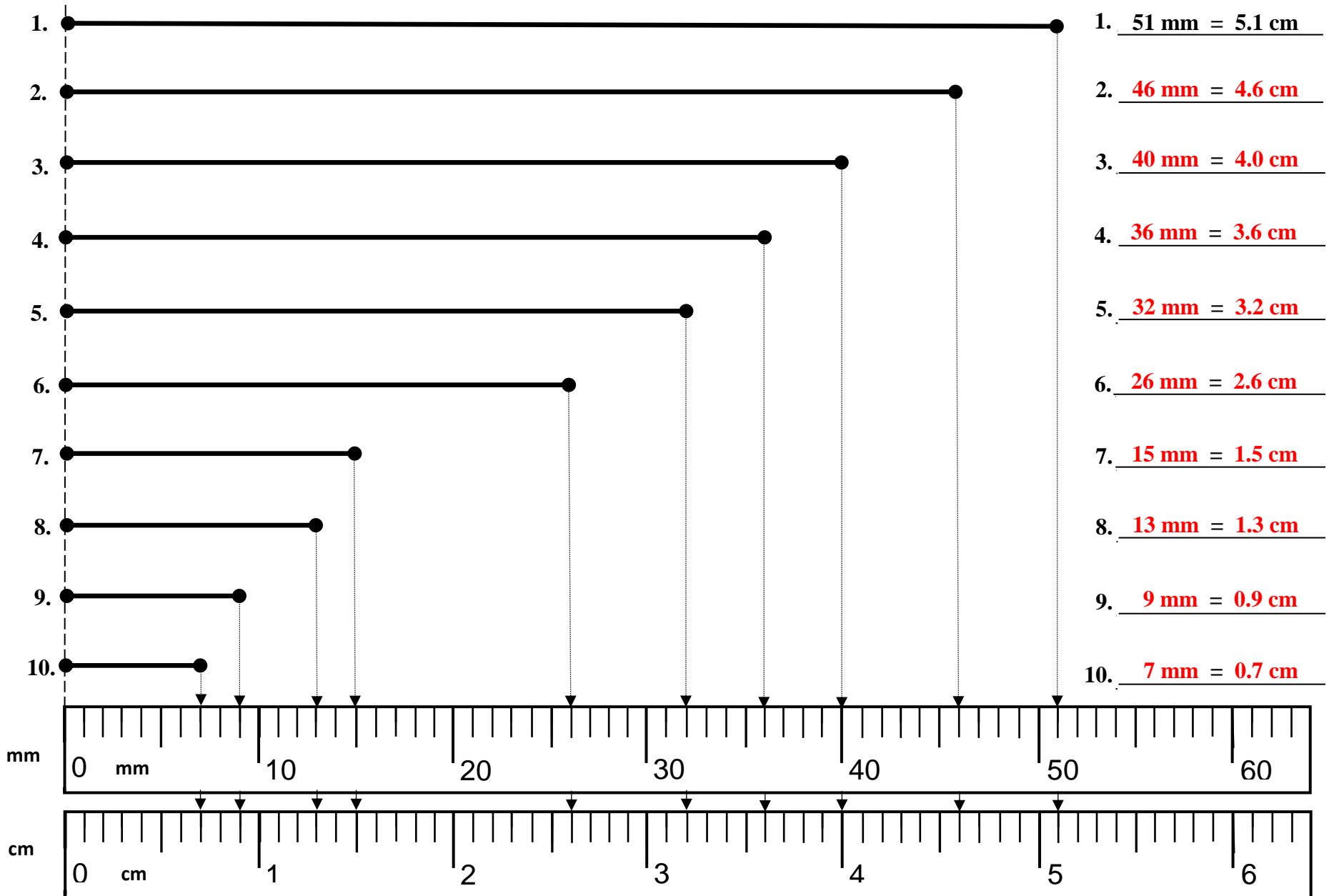
Reading Metric Rulers in Equal Measurements of Millimeters and Centimeters

-- Version 2 --

-- Version 2 --

-- Version 2 --

Directions: Using the metric millimeter and centimeter rulers at the bottom of the page, measure the each line segment below and write the correct of the line provided at the right of the page. **REMEMBER:** 1 centimeter (cm) = 10 millimeters (mm).



Reading Metric Rulers in Equal Measurements of Millimeters and Centimeters

-- Version 3 --

-- Version 3 --

-- Version 3 --

Directions: Using the metric millimeter and centimeter rulers at the bottom of the page, measure the each line segment below and write the correct of the line provided at the right of the page. **REMEMBER:** 1 centimeter (cm) = 10 millimeters (mm).

1.		1. <u>49 mm = 4.9 cm</u>
2.		2. _____ = _____
3.		3. _____ = _____
4.		4. _____ = _____
5.		5. _____ = _____
6.		6. _____ = _____
7.		7. _____ = _____
8.		8. _____ = _____
9.		9. _____ = _____
10.		10. _____ = _____

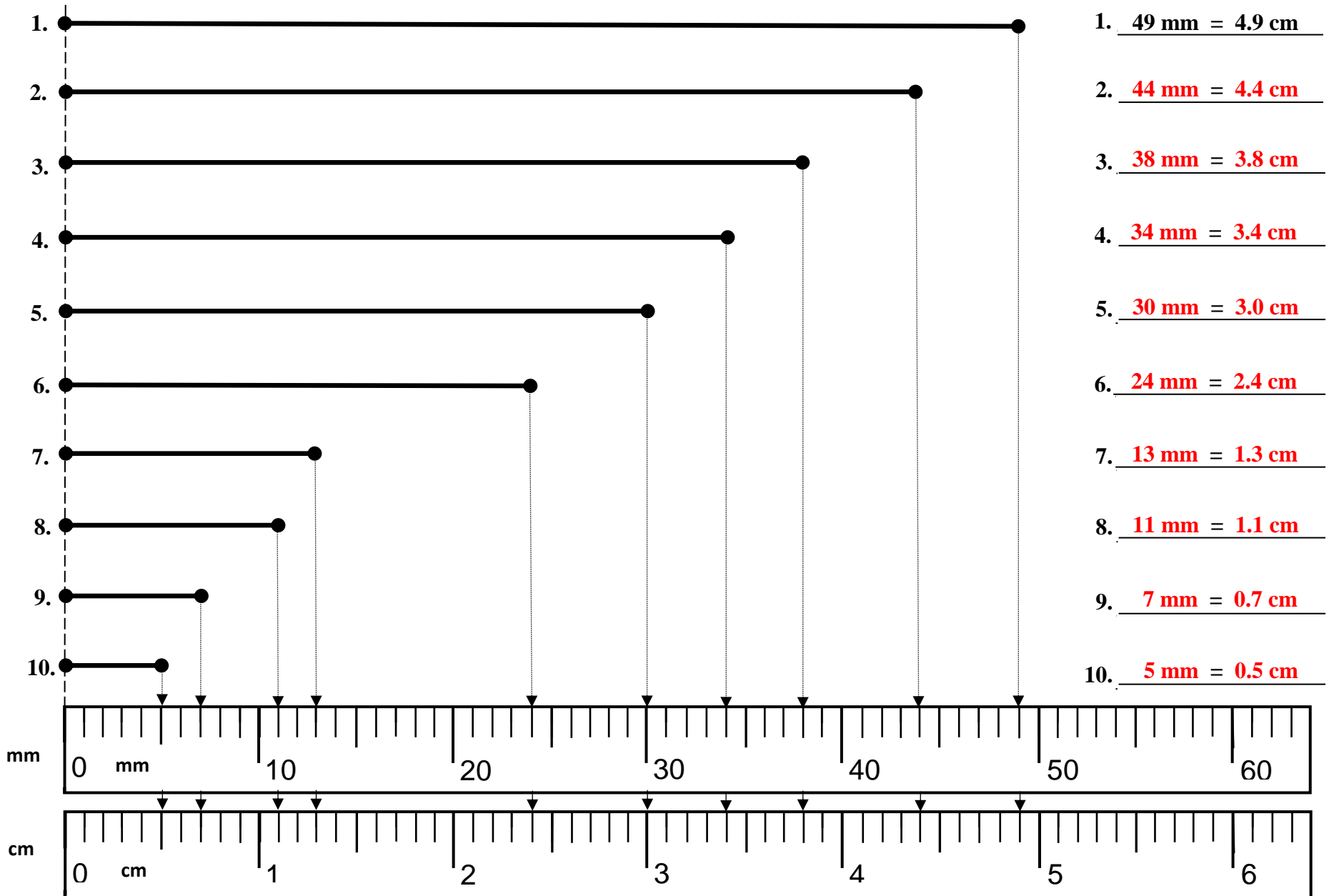
Reading Metric Rulers in Equal Measurements of Millimeters and Centimeters

-- Version 3 --

-- Version 3 --

-- Version 3 --

Directions: Using the metric millimeter and centimeter rulers at the bottom of the page, measure the each line segment below and write the correct of the line provided at the right of the page. **REMEMBER:** 1 centimeter (cm) = 10 millimeters (mm).













Reading Metric Rulers in Equal Measurements of Millimeters and Centimeters

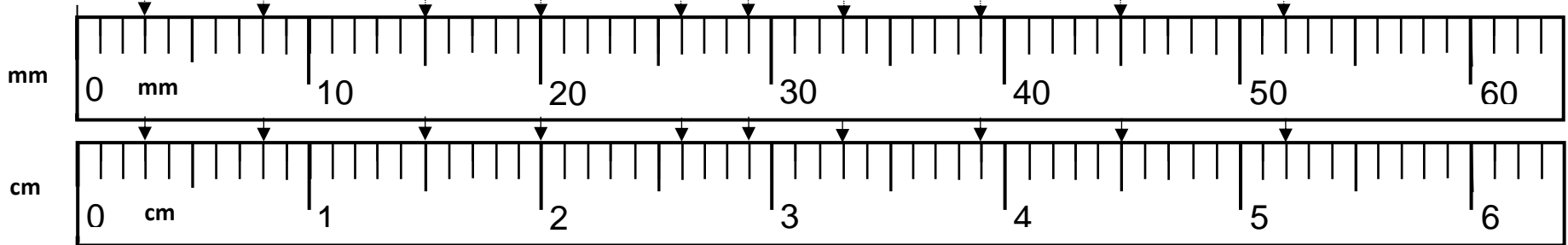
-- Version 4 --

-- Version 4 --

-- Version 4 --

Directions: Using the metric millimeter and centimeter rulers at the bottom of the page, measure the each line segment below and write the correct of the line provided at the right of the page. **REMEMBER:** 1 centimeter (cm) = 10 millimeters (mm).

1.		1. <u>52 mm = 5.2 cm</u>
2.		2. _____ = _____
3.		3. _____ = _____
4.		4. _____ = _____
5.		5. _____ = _____
6.		6. _____ = _____
7.		7. _____ = _____
8.		8. _____ = _____
9.		9. _____ = _____
10.		10. _____ = _____



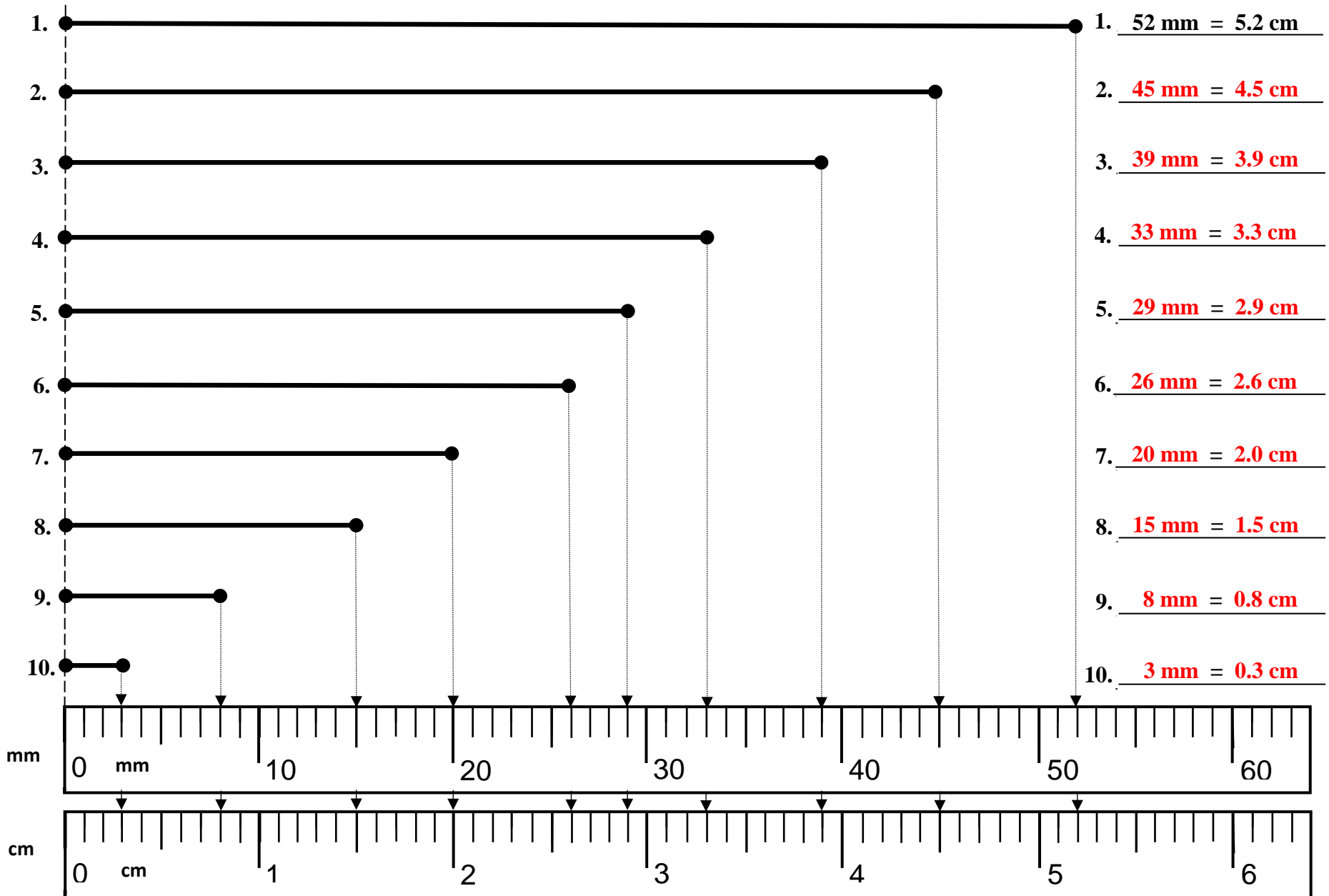
Reading Metric Rulers in Equal Measurements of Millimeters and Centimeters

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-- Version 4 --

Directions: Using the metric millimeter and centimeter rulers at the bottom of the page, measure the each line segment below and write the correct of the line provided at the right of the page. **REMEMBER:** 1 centimeter (cm) = 10 millimeters (mm).













Reading Metric Rulers in Equal Measurements of Millimeters and Centimeters

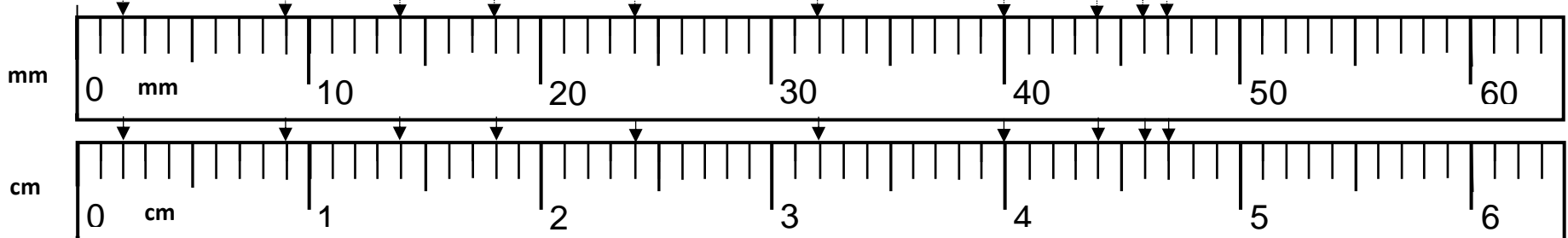
-- Version 5 --

-- Version 5 --

-- Version 5 --

Directions: Using the metric millimeter and centimeter rulers at the bottom of the page, measure the each line segment below and write the correct of the line provided at the right of the page. **REMEMBER:** 1 centimeter (cm) = 10 millimeters (mm).

1.		1. <u>47 mm = 4.7 cm</u>
2.		2. _____ = _____
3.		3. _____ = _____
4.		4. _____ = _____
5.		5. _____ = _____
6.		6. _____ = _____
7.		7. _____ = _____
8.		8. _____ = _____
9.		9. _____ = _____
10.		10. _____ = _____



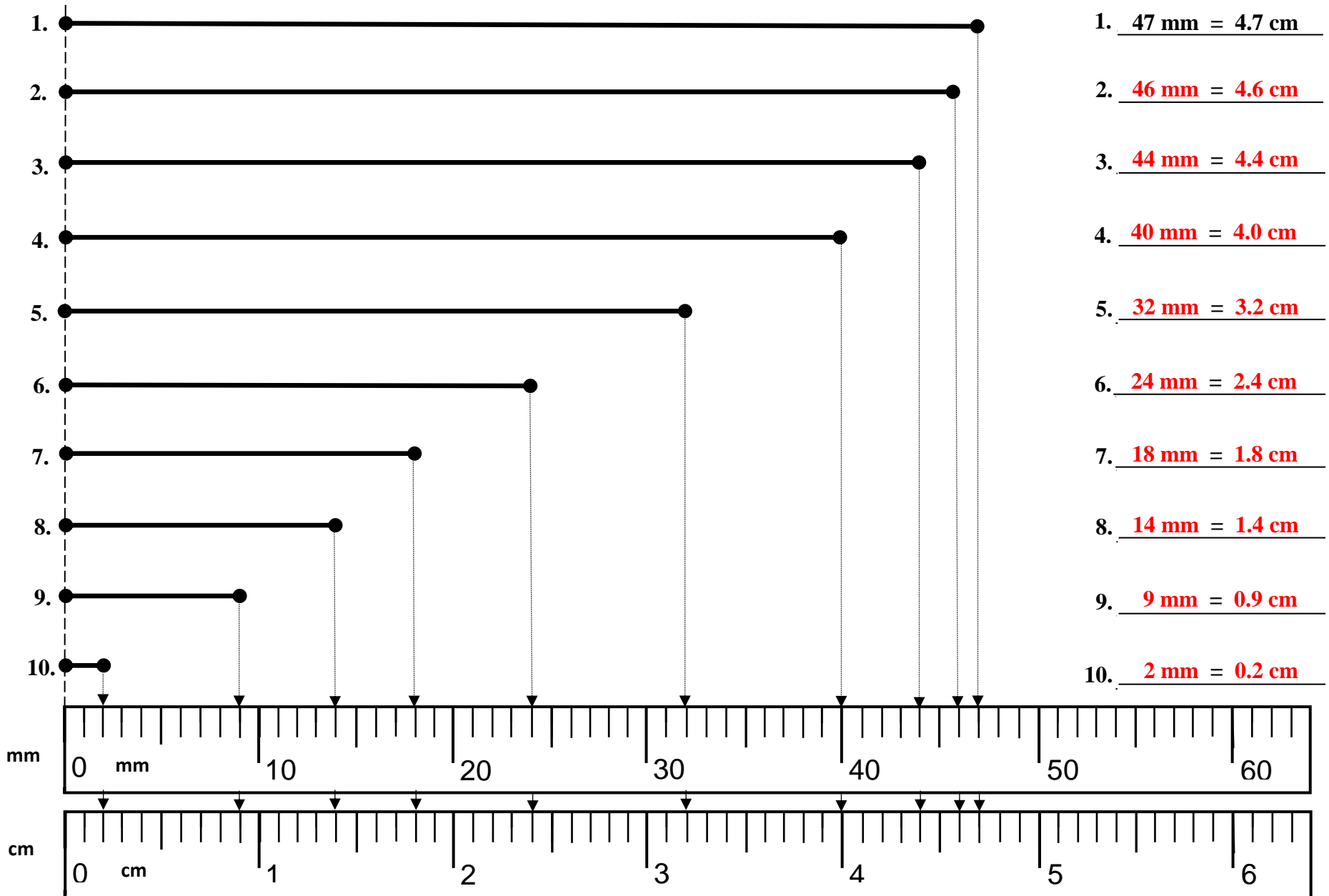
Reading Metric Rulers in Equal Measurements of Millimeters and Centimeters

-- Version 5 --

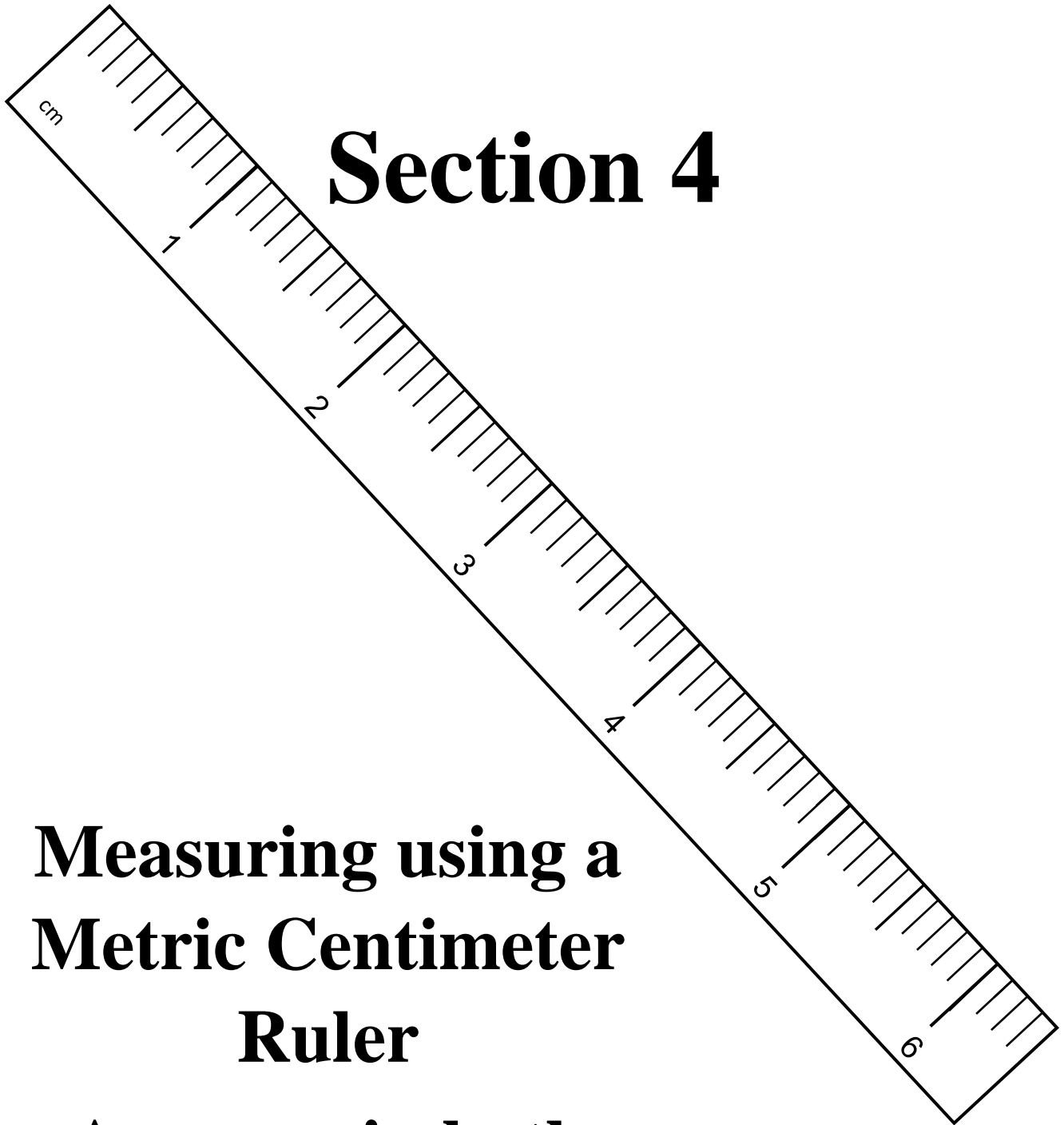
-- Version 5 --

-- Version 5 --

Directions: Using the metric millimeter and centimeter rulers at the bottom of the page, measure the each line segment below and write the correct of the line provided at the right of the page. **REMEMBER:** 1 centimeter (cm) = 10 millimeters (mm).



Section 4



Measuring using a Metric Centimeter Ruler

Answers in both
centimeters and
millimeters

Practice Sheets

Version 1

Version 2

Version 3

Measuring using a Metric Centimeter Ruler

-- Version 1 --

-- Version 1 --

-- Version 1 --

Directions: Measure the length of each line segment below using a Metric centimeter ruler and measure each line in either millimeters or centimeters – as stated. Write the answer on the line provided at the right.

1. _____ *millimeters* 1. 107 **mm**

2. _____ *centimeters* 2. 3.9 **cm**

3. _____ *millimeters* 3. _____ **mm**

4. _____ *centimeters* 4. _____ **cm**

5. _____ *millimeters* 5. _____ **mm**

6. _____ *millimeters* 6. _____ **mm**

7. _____ *centimeters* 7. _____ **cm**

8. _____ *millimeters* 8. _____ **mm**

9. _____ *centimeters* 9. _____ **cm**

10. _____ *centimeters* 10. _____ **cm**

11. _____ *millimeters* 11. _____ **mm**

12. _____ *centimeters* 12. _____ **cm**

13. _____ *millimeters* 13. _____ **mm**

14. _____ *centimeters* 14. _____ **cm**

15. _____ *millimeters* 15. _____ **mm**

16. _____ *centimeters* 16. _____ **cm**

17. _____ *millimeters* 17. _____ **mm**

Measuring using a Metric Centimeter Ruler

-- Version 1 --

-- Version 1 --

-- Version 1 --

Directions: Measure the length of each line segment below using a Metric centimeter ruler and measure each line in either millimeters or centimeters – as stated. Write the answer on the line provided at the right.

- | | |
|------------------------------|-------------------|
| 1. _____ <i>millimeters</i> | 1. <u>107</u> mm |
| 2. _____ <i>centimeters</i> | 2. <u>3.9</u> cm |
| 3. _____ <i>millimeters</i> | 3. <u>81</u> mm |
| 4. _____ <i>centimeters</i> | 4. <u>1.3</u> cm |
| 5. _____ <i>millimeters</i> | 5. <u>90</u> mm |
| 6. _____ <i>millimeters</i> | 6. <u>137</u> mm |
| 7. _____ <i>centimeters</i> | 7. <u>5.1</u> cm |
| 8. _____ <i>millimeters</i> | 8. <u>19</u> mm |
| 9. _____ <i>centimeters</i> | 9. <u>8.9</u> cm |
| 10. _____ <i>centimeters</i> | 10. <u>3.5</u> cm |
| 11. _____ <i>millimeters</i> | 11. <u>24</u> mm |
| 12. _____ <i>centimeters</i> | 12. <u>2.5</u> cm |
| 13. _____ <i>millimeters</i> | 13. <u>72</u> mm |
| 14. _____ <i>centimeters</i> | 14. <u>4.9</u> cm |
| 15. _____ <i>millimeters</i> | 15. <u>16</u> mm |
| 16. _____ <i>centimeters</i> | 16. <u>3.2</u> cm |
| 17. _____ <i>millimeters</i> | 17. <u>62</u> mm |

Measuring using a Metric Centimeter Ruler

-- Version 2 --

-- Version 2 --

-- Version 2 --

Directions: Measure the length of each line segment below using a Metric centimeter ruler and measure each line in either millimeters or centimeters – as stated. Write the answer on the line provided at the right.

1. _____ *millimeters* 1. 117 **mm**

2. _____ *centimeters* 2. 5.1 **cm**

3. _____ *millimeters* 3. _____ **mm**

4. _____ *centimeters* 4. _____ **cm**

5. _____ *millimeters* 5. _____ **mm**

6. _____ *millimeters* 6. _____ **mm**

7. _____ *centimeters* 7. _____ **cm**

8. _____ *millimeters* 8. _____ **mm**

9. _____ *centimeters* 9. _____ **cm**

10. _____ *centimeters* 10. _____ **cm**

11. _____ *millimeters* 11. _____ **mm**

12. _____ *centimeters* 12. _____ **cm**

13. _____ *millimeters* 13. _____ **mm**

14. _____ *centimeters* 14. _____ **cm**

15. _____ *millimeters* 15. _____ **mm**

16. _____ *centimeters* 16. _____ **cm**

17. _____ *millimeters* 17. _____ **mm**

Measuring using a Metric Centimeter Ruler

-- Version 2 --

-- Version 2 --

-- Version 2 --

Directions: Measure the length of each line segment below using a Metric centimeter ruler and measure each line in either millimeters or centimeters – as stated. Write the answer on the line provided at the right.

1. _____ *millimeters* 1. 117 mm

2. _____ *centimeters* 2. 5.1 cm

3. _____ *millimeters* 3. 96 mm

4. _____ *centimeters* 4. 1.7 cm

5. _____ *millimeters* 5. 104 mm

6. _____ *millimeters* 6. 139 mm

7. _____ *centimeters* 7. 6.1 cm

8. _____ *millimeters* 8. 23 mm

9. _____ *centimeters* 9. 10.1 cm

10. _____ *centimeters* 10. 4.3 cm

11. _____ *millimeters* 11. 33 mm

12. _____ *centimeters* 12. 4.0 cm

13. _____ *millimeters* 13. 79 mm

14. _____ *centimeters* 14. 6.2 cm

15. _____ *millimeters* 15. 22 mm

16. _____ *centimeters* 16. 3.9 cm

17. _____ *millimeters* 17. 87 mm

Measuring using a Metric Centimeter Ruler

-- Version 3 --

-- Version 3 --

-- Version 3 --

Directions: Measure the length of each line segment below using a Metric centimeter ruler and measure each line in either millimeters or centimeters – as stated. Write the answer on the line provided at the right.

1. _____ *millimeters* 1 88 **mm**

2. _____ *centimeters* 2 3.0 **cm**

3. _____ *millimeters* 3. _____ **mm**

4. _____ *centimeters* 4. _____ **cm**

5. _____ *millimeters* 5. _____ **mm**

6. _____ *millimeters* 6. _____ **mm**

7. _____ *centimeters* 7. _____ **cm**

8. _____ *millimeters* 8. _____ **mm**

9. _____ *centimeters* 9 _____ **cm**

10. _____ *centimeters* 10. _____ **cm**

11. _____ *millimeters* 11. _____ **mm**

12. _____ *centimeters* 12. _____ **cm**

13. _____ *millimeters* 13. _____ **mm**

14. _____ *centimeters* 14. _____ **cm**

15. _____ *millimeters* 15 _____ **mm**

16. _____ *centimeters* 16. _____ **cm**

17. _____ *millimeters* 17. _____ **mm**

Measuring using a Metric Centimeter Ruler

-- Version 3 --

-- Version 3 --

-- Version 3 --

Directions: Measure the length of each line segment below using a Metric centimeter ruler and measure each line in either millimeters or centimeters – as stated. Write the answer on the line provided at the right.

1. _____ *millimeters* 1 88 mm

2. _____ *centimeters* 2 3.0 cm

3. _____ *millimeters* 3. 63 mm

4. _____ *centimeters* 4. 0.6 cm

5. _____ *millimeters* 5. 77 mm

6. _____ *millimeters* 6. 120 mm

7. _____ *centimeters* 7. 4.0 cm

8. _____ *millimeters* 8. 24 mm

9. _____ *centimeters* 9 13.9 cm

10. _____ *centimeters* 10. 2.6 cm

11. _____ *millimeters* 11. 11 mm

12. _____ *centimeters* 12. 0.7 cm

13. _____ *millimeters* 13. 83 mm

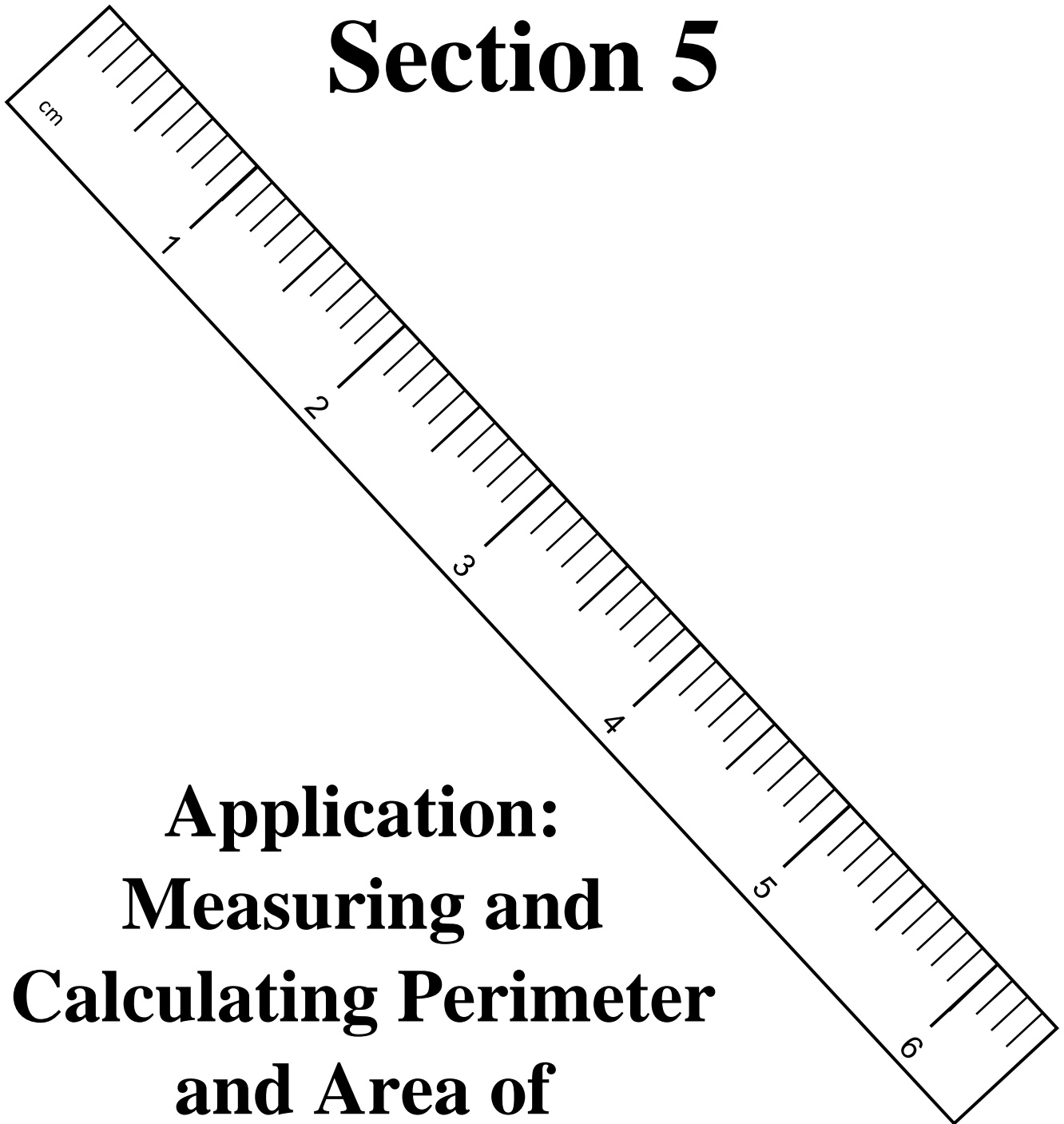
14. _____ *centimeters* 14. 4.2 cm

15. _____ *millimeters* 15 123 mm

16. _____ *centimeters* 16. 2.4 cm

17. _____ *millimeters* 17. 100 mm

Section 5



**Application:
Measuring and
Calculating Perimeter
and Area of
Parallelograms**

Section 5

Application: Perimeter

Version A

Version B

Version C

Application: Measuring and Calculating PERIMETER of Parallelograms

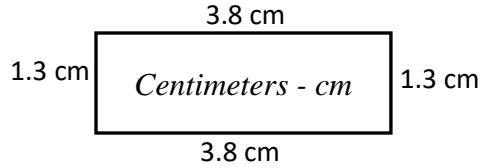
-- Version A --

-- Version A --

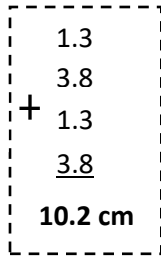
-- Version A --

Directions: Measure the side of each parallelogram below using a metric ruler with the measure unit (cm) or (mm) indicated. Compute the perimeter of each polygon and write the answer on the line provided.

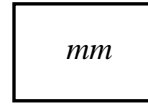
1.



Perimeter = 10.2 centimeters

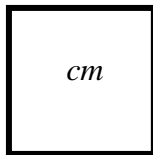


2.



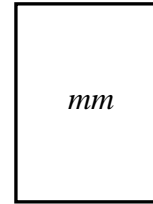
Perimeter = _____ millimeters

3.



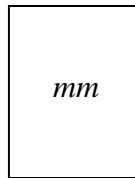
Perimeter = _____ centimeters

4.



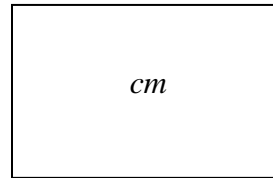
Perimeter = _____ millimeters

5.



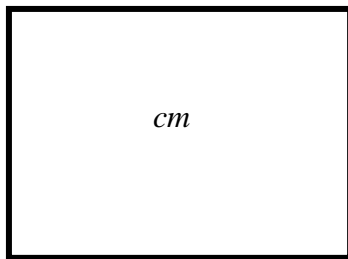
Perimeter = _____ millimeters

6.



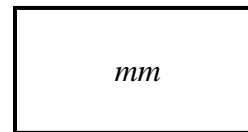
Perimeter = _____ centimeters

7.



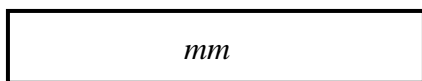
Perimeter = _____ centimeters

8.



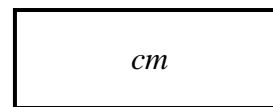
Perimeter = _____ millimeters

9.



Perimeter = _____ millimeters

10.



Perimeter = _____ centimeters

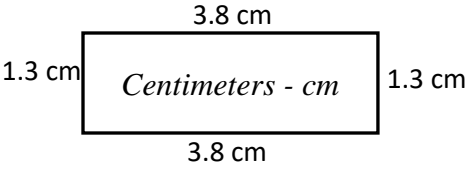
Application: Measuring and Calculating PERIMETER of Parallelograms

-- Version A --

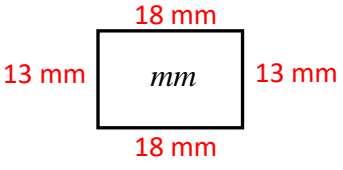
-- Version A --

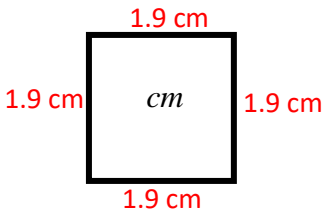
-- Version A --

Directions: Measure the side of each parallelogram below using a metric ruler with the measure unit (cm) or (mm) indicated. Compute the perimeter of each polygon and write the answer on the line provided.

1. 
Perimeter = 10.2 centimeters

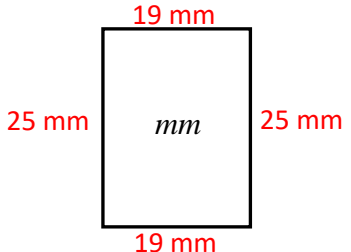
$$\begin{array}{r} 1.3 \\ + 3.8 \\ + 1.3 \\ + 3.8 \\ \hline 10.2 \text{ cm} \end{array}$$

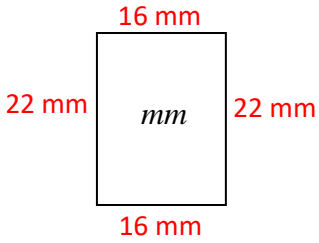
2. 
Perimeter = 62 millimeters

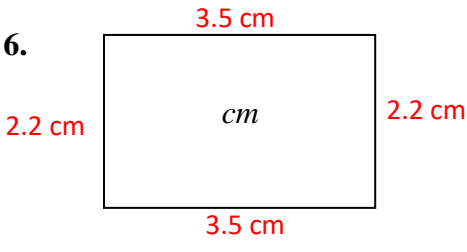
3. 
Perimeter = 7.6 centimeters

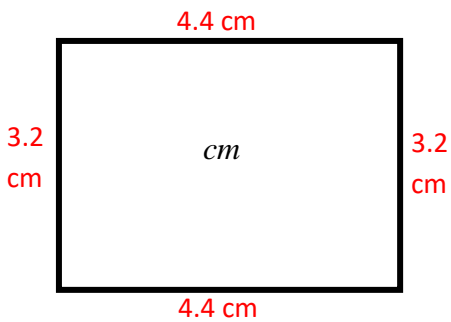
NOTE:
MEASUREMENTS
MAY VARY SLIGHTLY
DUE TO EXEROX
COPYING.

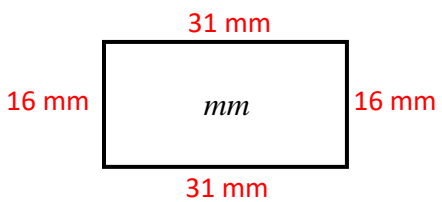
**TAKE THESE
CIRCUMSTANCES
INTO ACCOUNT
WHEN MEASURING.**

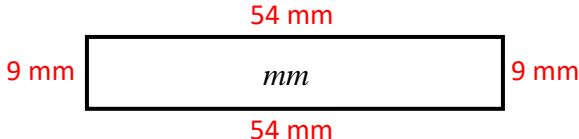
4. 
Perimeter = 88 millimeters

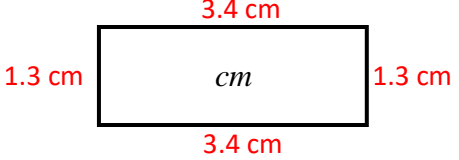
5. 
Perimeter = 76 millimeters

6. 
Perimeter = 11.4 centimeters

7. 
Perimeter = 15.2 centimeters

8. 
Perimeter = 94 millimeters

9. 
Perimeter = 126 millimeters

10. 
Perimeter = 9.4 centimeters

Application: Measuring and Calculating PERIMETER of Parallelograms

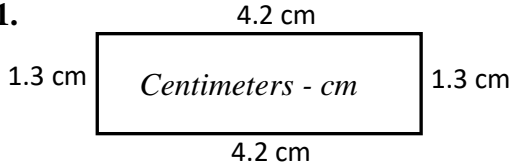
-- Version B --

-- Version B --

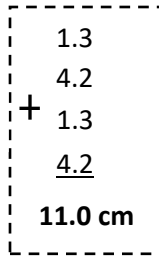
-- Version B --

Directions: Measure the side of each parallelogram below using a metric ruler with the measure unit (cm) or (mm) indicated. Compute the perimeter of each polygon and write the answer on the line provided.

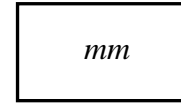
1.



Perimeter = 11.0 centimeters

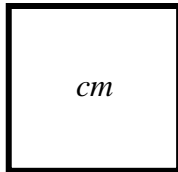


2.



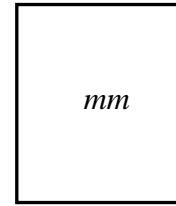
Perimeter = _____ millimeters

3.



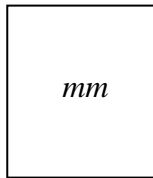
Perimeter = _____ centimeters

4.



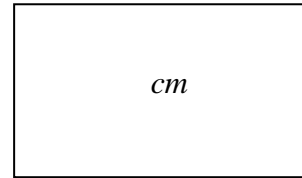
Perimeter = _____ millimeters

5.



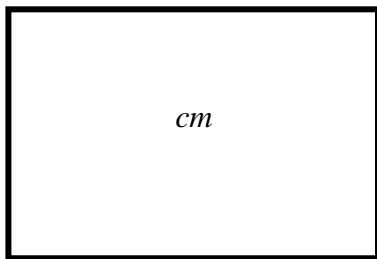
Perimeter = _____ millimeters

6.



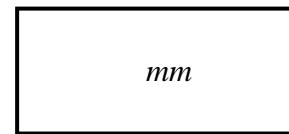
Perimeter = _____ centimeters

7.



Perimeter = _____ centimeters

8.



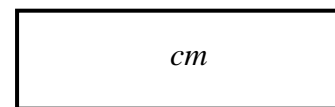
Perimeter = _____ millimeters

9.



Perimeter = _____ millimeters

10.



Perimeter = _____ centimeters

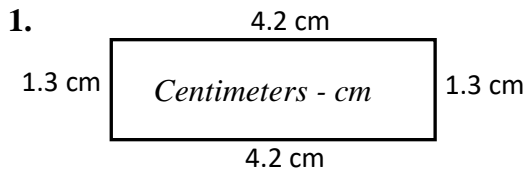
Application: Measuring and Calculating PERIMETER of Parallelograms

-- Version B --

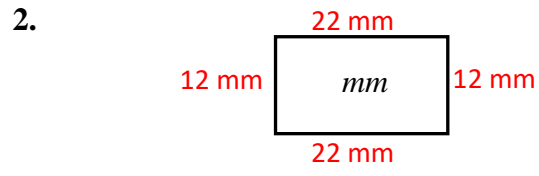
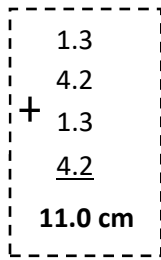
-- Version B --

-- Version B --

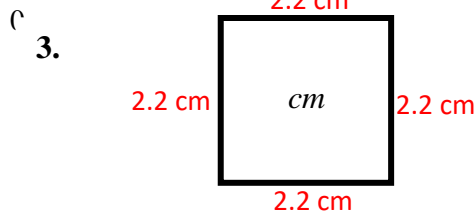
Directions: Measure the side of each parallelogram below using a metric ruler with the measure unit (cm) or (mm) indicated. Compute the perimeter of each polygon and write the answer on the line provided.



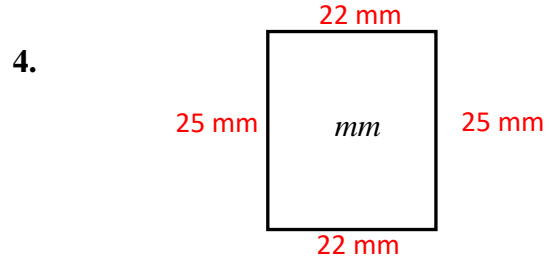
Perimeter = 11.0 centimeters



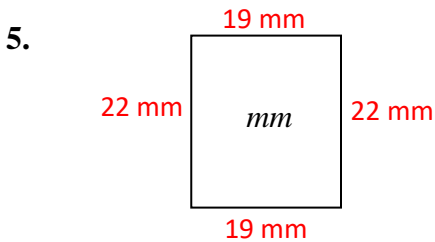
Perimeter = 68 millimeters



Perimeter = 8.8 centimeters



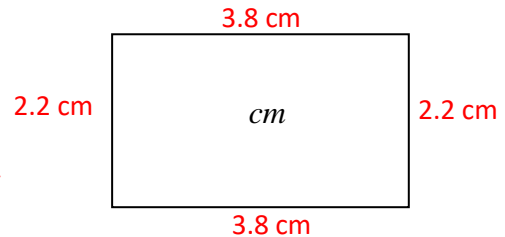
Perimeter = 94 millimeters



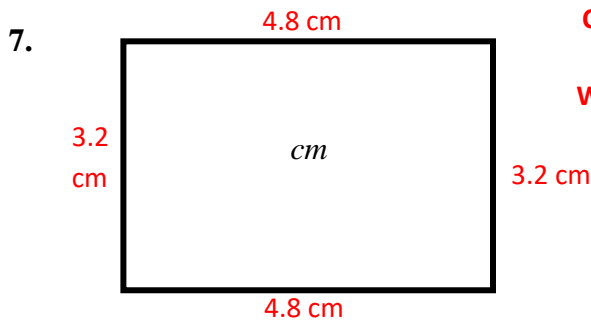
Perimeter = 82 millimeters

**NOTE:
MEASUREMENTS
MAY VARY SLIGHTLY
DUE TO EXEROX
COPYING.**

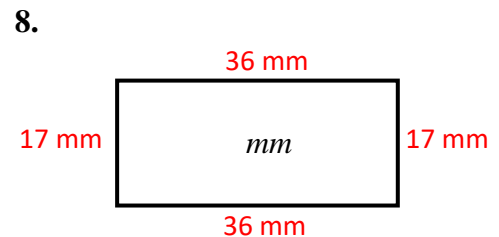
**TAKE THESE
CIRCUMSTANCES
INTO ACCOUNT
WHEN MEASURING.**



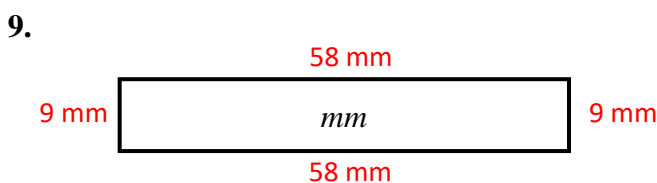
Perimeter = 12.0 centimeters



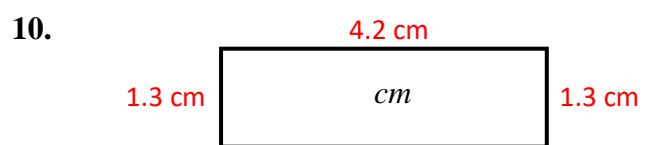
Perimeter = 16.0 centimeters



Perimeter = 106 millimeters



Perimeter = 134 millimeters



Perimeter = 11.0 centimeters

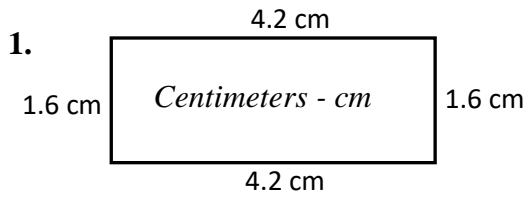
Application: Measuring and Calculating PERIMETER of Parallelograms

-- Version C --

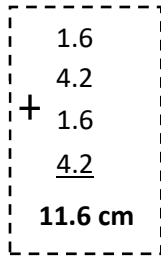
-- Version C --

-- Version C --

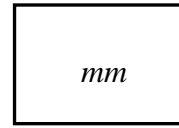
Directions: Measure the side of each parallelogram below using a metric ruler with the measure unit (cm) or (mm) indicated. Compute the perimeter of each polygon and write the answer on the line provided.



Perimeter = 11.6 centimeters

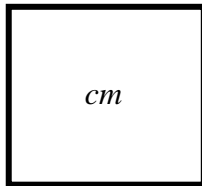


2.



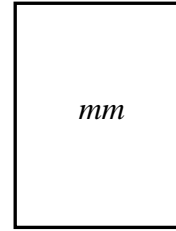
Perimeter = _____ millimeters

3.



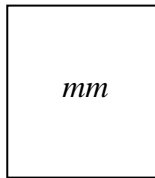
Perimeter = _____ centimeters

4.



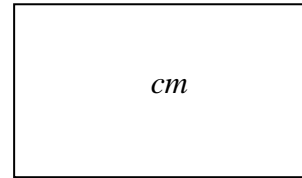
Perimeter = _____ millimeters

5.



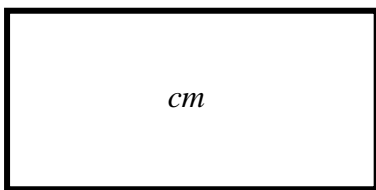
Perimeter = _____ millimeters

6.



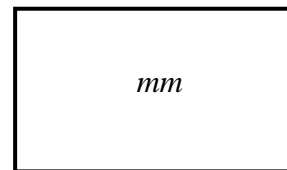
Perimeter = _____ centimeters

7.



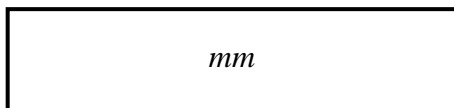
Perimeter = _____ centimeters

8.



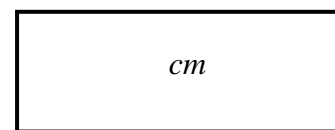
Perimeter = _____ millimeters

9.



Perimeter = _____ millimeters

10.



Perimeter = _____ centimeters

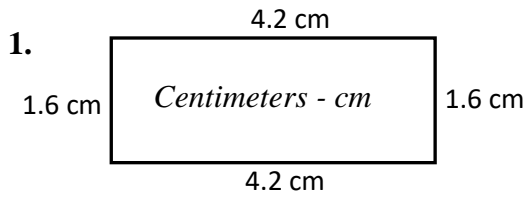
Application: Measuring and Calculating PERIMETER of Parallelograms

-- Version C --

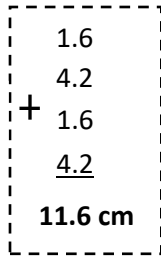
-- Version C --

-- Version C --

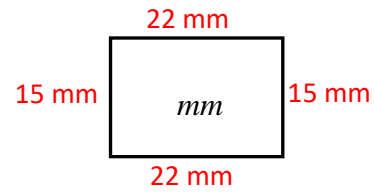
Directions: Measure the side of each parallelogram below using a metric ruler with the measure unit (cm) or (mm) indicated. Compute the perimeter of each polygon and write the answer on the line provided.



Perimeter = 11.6 centimeters

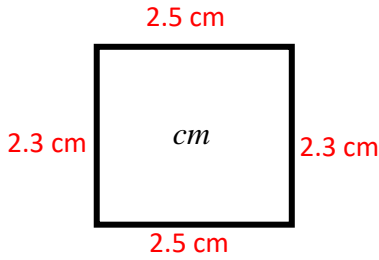


2.



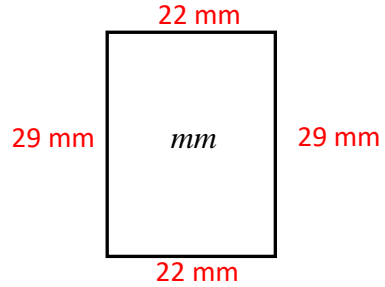
Perimeter = 74 millimeters

3.



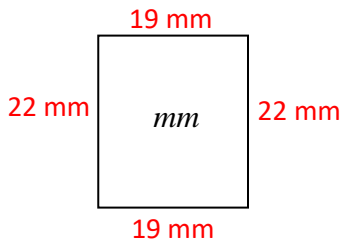
Perimeter = 9.6 centimeters

4.



Perimeter = 102 millimeters

5.

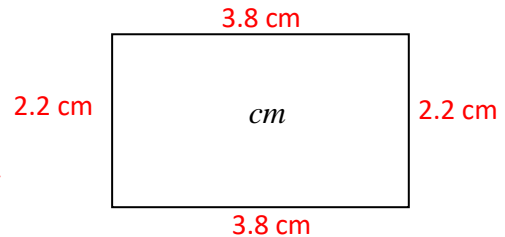


Perimeter = 82 millimeters

6.

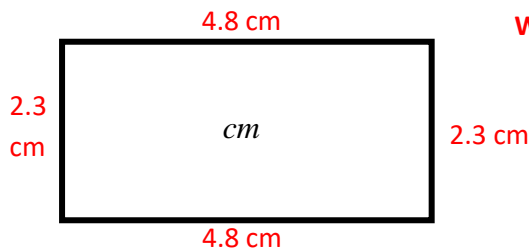
NOTE:
MEASUREMENTS
MAY VARY SLIGHTLY
DUE TO EXEROX
COPYING.

**TAKE THESE
CIRCUMSTANCES
INTO ACCOUNT
WHEN MEASURING.**



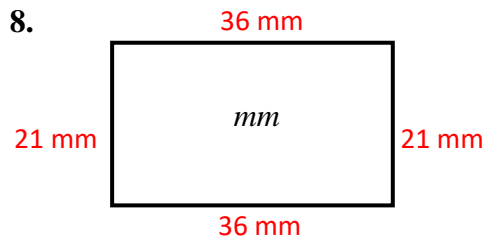
Perimeter = 12.0 centimeters

7.



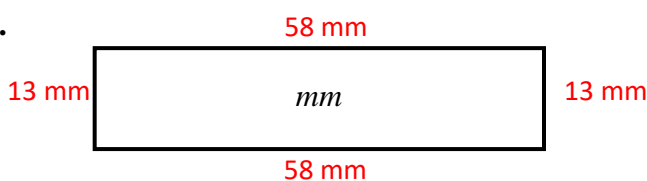
Perimeter = 14.2 centimeters

8.



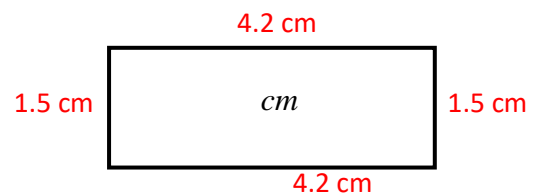
Perimeter = 114 millimeters

9.



Perimeter = 142 millimeters

10.



Perimeter = 11.4 centimeters

Section 5

Application:

Area

Version D

Version E

Version F

Application: Measuring and Calculating AREA of Parallelograms

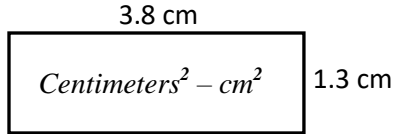
-- Version D --

-- Version D --

-- Version D --

Directions: Measure the side of each parallelogram below using a metric ruler with the measure unit (cm) or (mm) indicated. Compute the area of each polygon and write the answer on the line provided.

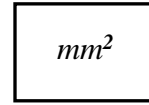
1.



$$\begin{array}{r} 3.8 \\ \times 1.3 \\ \hline 4.94 \end{array}$$

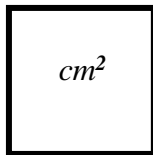
Area = 4.94 square centimeters

2.



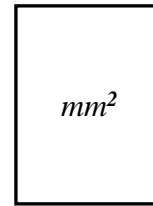
Area = _____ square millimeters

3.



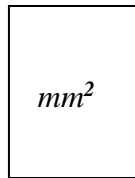
Area = _____ centimeters²

4.



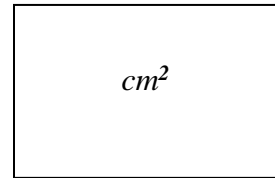
Area = _____ millimeters²

5.



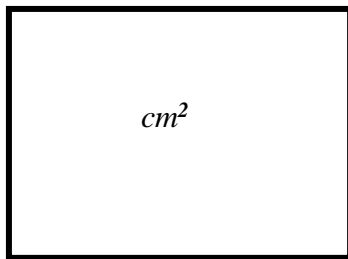
Area = _____ millimeters²

6.



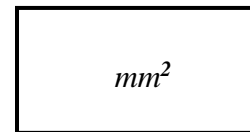
Area = _____ square centimeters

7.



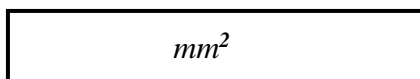
Area = _____ square centimeters

8.



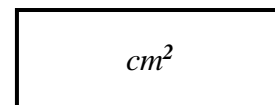
Area = _____ square millimeters

9.



Area = _____ square millimeters

10.



Area = _____ centimeters²

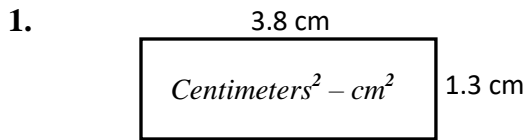
Application: Measuring and Calculating AREA of Parallelograms

-- Version D --

-- Version D --

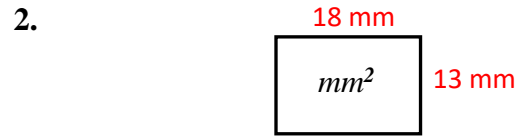
-- Version D --

Directions: Measure the side of each parallelogram below using a metric ruler with the measure unit (cm) or (mm) indicated. Compute the area of each polygon and write the answer on the line provided.

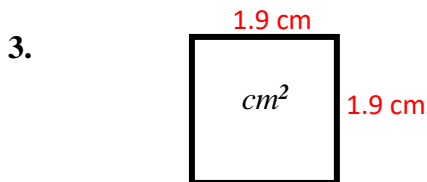


$$\begin{array}{r} 3.8 \\ \times 1.3 \\ \hline 4.94 \end{array}$$

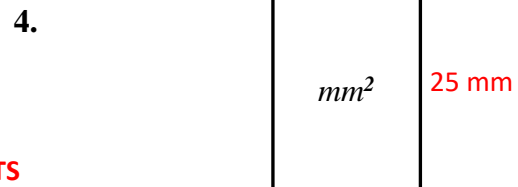
Area = 4.94 square centimeters



Area = 234 square millimeters



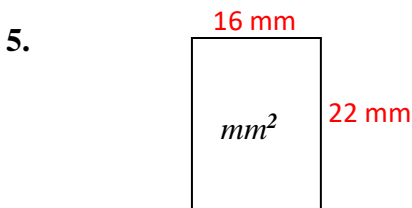
Area = 3.61 centimeters²



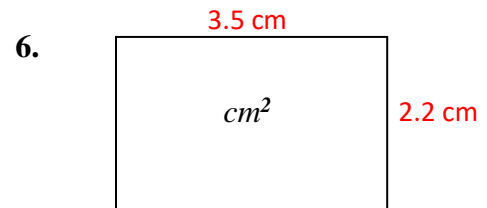
Area = 475 millimeters²

NOTE:
MEASUREMENTS
MAY VARY SLIGHTLY
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COPYING.

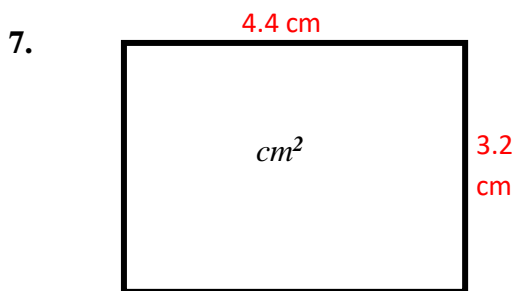
**TAKE THESE
CIRCUMSTANCES
INTO ACCOUNT
WHEN MEASURING.**



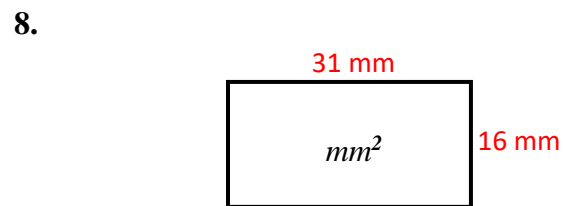
Area = 352 millimeters²



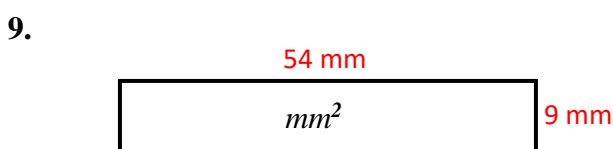
Area = 7.7 square centimeters



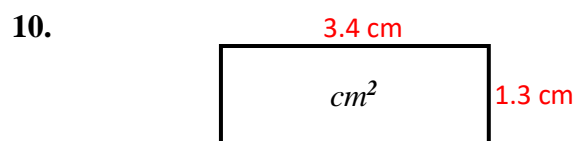
Area = 14.08 square centimeters



Area = 496 square millimeters



Area = 486 square millimeters



Area = 4.42 centimeters²

Application: Measuring and Calculating AREA of Parallelograms

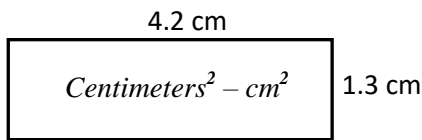
-- Version E --

-- Version E --

-- Version E --

Directions: Measure the side of each parallelogram below using a metric ruler with the measure unit (cm) or (mm) indicated. Compute the Area of each polygon and write the answer on the line provided.

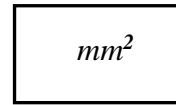
1.



$$\begin{array}{r} 4.2 \\ \times 1.3 \\ \hline 5.46 \end{array}$$

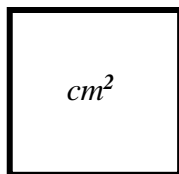
Area = 5.46 square centimeters

2.



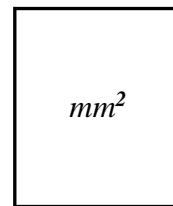
Area = _____ square millimeters

3.



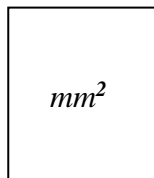
Area = _____ centimeters²

4.



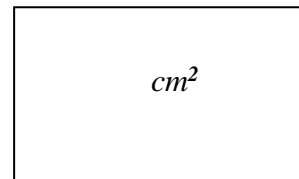
Area = _____ millimeters²

5.



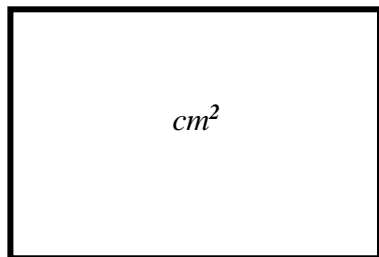
Area = _____ millimeters²

6.



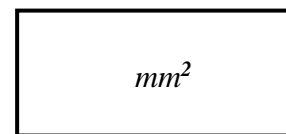
Area = _____ square centimeters

7.



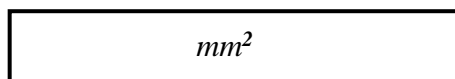
Area = _____ square centimeters

8.



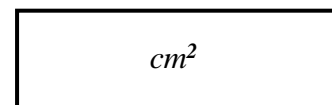
Area = _____ square millimeters

9.



Area = _____ square millimeters

10.



Area = _____ centimeters²

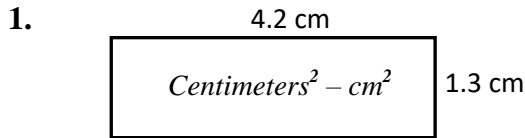
Application: Measuring and Calculating AREA of Parallelograms

-- Version E --

-- Version E --

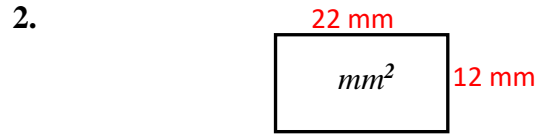
-- Version E --

Directions: Measure the side of each parallelogram below using a metric ruler with the measure unit (cm) or (mm) indicated. Compute the Area of each polygon and write the answer on the line provided.

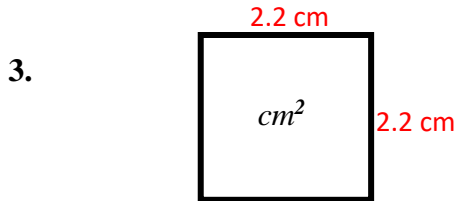


$$\begin{array}{r} 4.2 \\ \times 1.3 \\ \hline 5.46 \end{array}$$

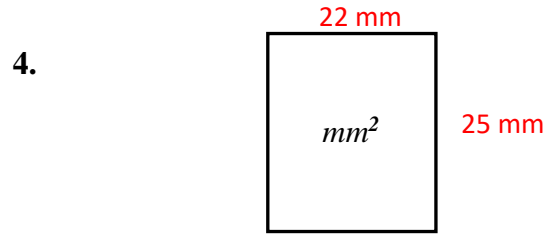
Area = 5.46 square centimeters



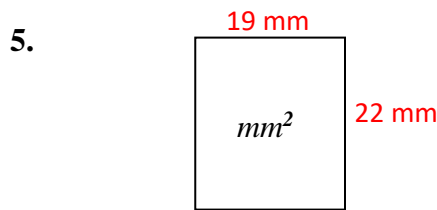
Area = 264 square millimeters



Area = 4.84 centimeters²



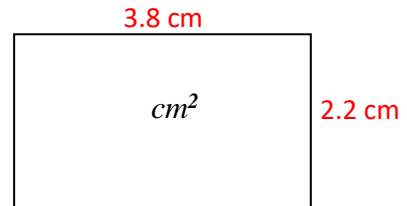
Area = 550 millimeters²



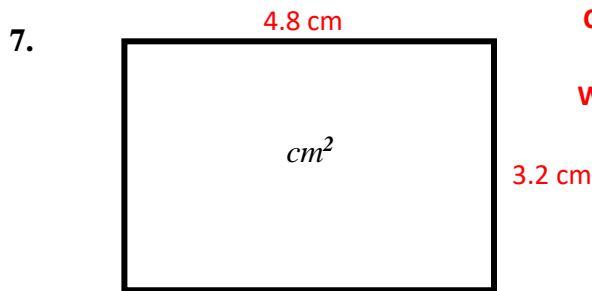
Area = 418 millimeters²

NOTE:
MEASUREMENTS
MAY VARY SLIGHTLY
DUE TO EXEROX
COPYING.

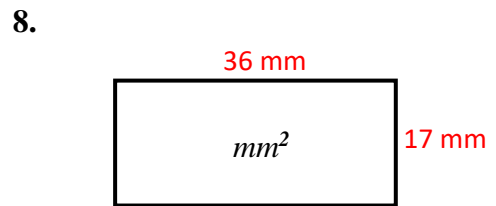
**TAKE THESE
CIRCUMSTANCES
INTO ACCOUNT
WHEN MEASURING.**



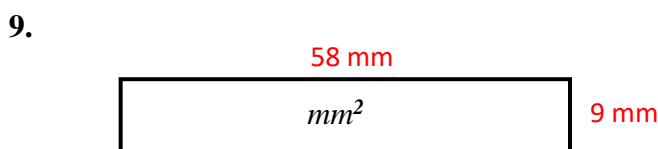
Area = 8.36 square centimeters



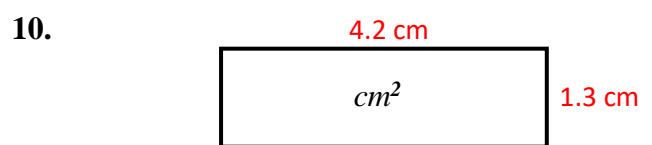
Area = 15.36 square centimeters



Area = 612 square millimeters



Area = 522 square millimeters



Area = 5.46 centimeters²

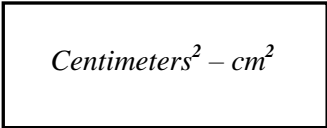
Application: Measuring and Calculating AREA of Parallelograms

-- Version F --

-- Version F --

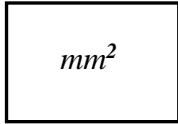
-- Version F --

Directions: Measure the side of each parallelogram below using a metric ruler with the measure unit (cm) or (mm) indicated. Compute the Area of each polygon and write the answer on the line provided.

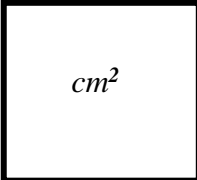
1. 

$$\begin{array}{r} 4.2 \\ \times 1.6 \\ \hline 6.72 \end{array}$$

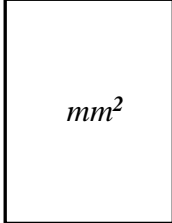
Area = 6.72 square centimeters

2. 

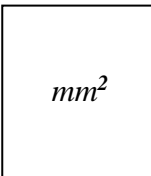
Area = _____ square millimeters

3. 

Area = _____ centimeters²

4. 

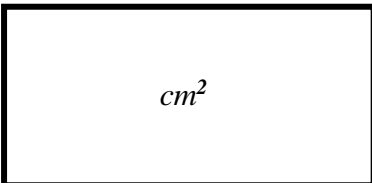
Area = _____ millimeters²

5. 

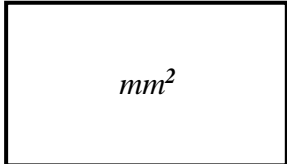
Area = _____ millimeters²

6. 

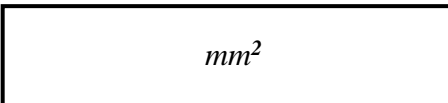
Area = _____ square centimeters

7. 

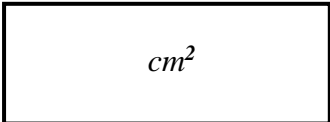
Area = _____ square centimeters

8. 

Area = _____ square millimeters

9. 

Area = _____ square millimeters

10. 

Area = _____ centimeters²

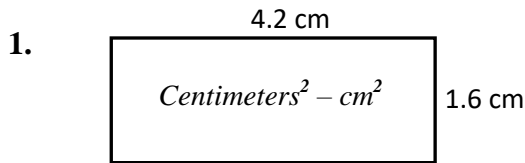
Application: Measuring and Calculating AREA of Parallelograms

-- Version F --

-- Version F --

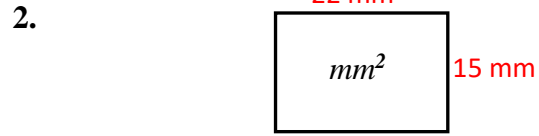
-- Version F --

Directions: Measure the side of each parallelogram below using a metric ruler with the measure unit (cm) or (mm) indicated. Compute the Area of each polygon and write the answer on the line provided.

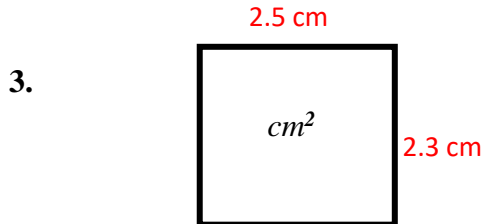


$$\begin{array}{r} 4.2 \\ \times 1.6 \\ \hline 6.72 \end{array}$$

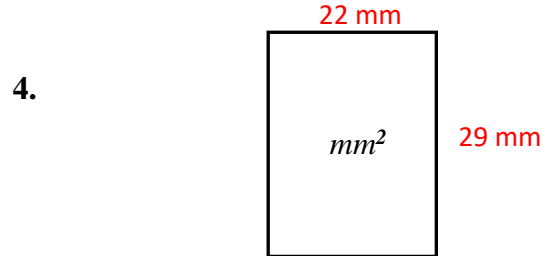
Area = 6.72 square centimeters



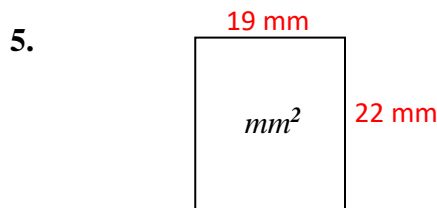
Area = 330 square millimeters



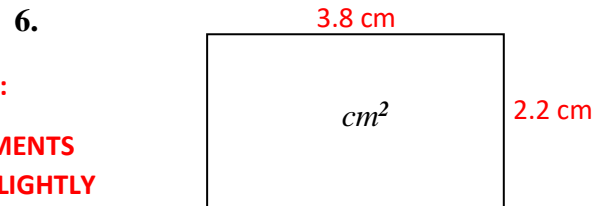
Area = 5.75 centimeters²



Area = 638 millimeters²



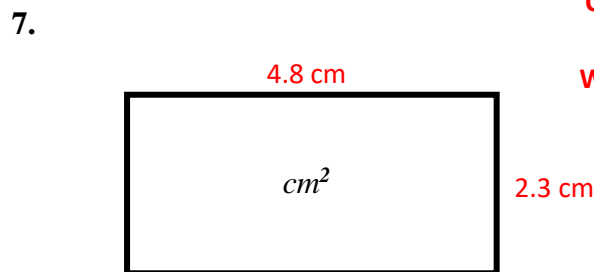
Area = 418 millimeters²



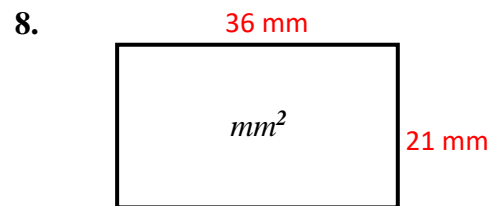
Area = 8.36 square centimeters

NOTE:
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COPYING.

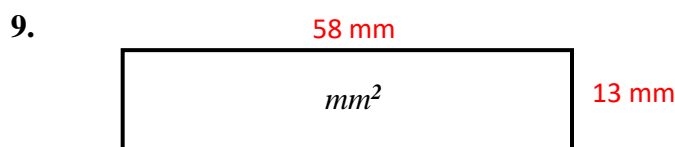
**TAKE THESE
CIRCUMSTANCES
INTO ACCOUNT
WHEN MEASURING.**



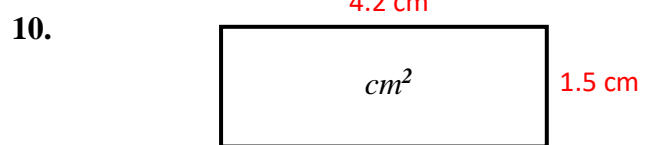
Area = 11.04 square centimeters



Area = 756 square millimeters



Area = 754 square millimeters



Area = 6.3 centimeters²