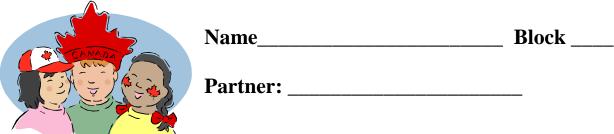
## **Developing Metric/English Conversion Factors**



- 1. Using a ruler and a blank sheet of paper, draw straight lines <u>measured in inches</u> as listed in the table below.
- 2. Now measure each line in centimeters and fill in the <u>Length in Centimeters</u> column, using the correct number of significant digits.
- 3. For each line, divide its length in centimeters by its length in inches, and put the result in the last column.
- 4. Total the <u>first two columns</u> the row indicated; then compute their ratio
- 5. Compute the average of the <u>first two columns</u> in the row indicated by dividing the total by 5; then compute that ratio.

	Lines in inches	Length in centimeters	Ratio (Length in centimeters ÷ Length in inches)
	1 in		
	3 in		
	5 in		
	8 in		
	12 in		
Total of all 5 measurements			
Average = Total ÷ 5			

## **Analysis:**

- 1. What is the result when you divide the average length in inches by the average length in centimeters? Show your work below.
- 2. What are the units on your answer to #1?

	at is the result when you divide the average length in centimeters by the average length in ? Show your work below.
4. Wh	nat are the units on your answer to #3?
Applio	cation:
relatio	riding the average length in centimeters by the average length in inches, you have created a nship between <i>measurements of the same object in different units</i> . Any measurement in centimeters could be changed to be a measurement in inches using this relationship:
	Measurement in centimeters $x$ [answer to #1] = Measurement in inches
You co	ould also change a measurement in inches to one in centimeters using your other work:
	Measurement in inches x [answer to #3] = Measurement in centimeters
1.	If your shoe is about 10" long, how long would it be in centimeters?
2.	If your thumb is about 7 cm long, how many inches long is it?
3.	Your cat's eye is about 0.8 inches wide. How many centimeters is that?