

Name _____

Date _____

Note: Do not pass out rulers until after students complete Problem 1(a).

1. a. Estimate the length of each item in inches.

The envelope is about ____ inches.



The pencil is about ____ inches.



The crayon is about ____ inches.



The scissors are about ____ inches.



- b. Use a ruler to measure the length of the items above using inches and then centimeters. Round to the nearest unit, and then record the measurements in the table.

Envelope	Pencil	Crayon	Scissors
____ inches	____ inches	____ inches	____ inches
____ centimeters	____ centimeters	____ centimeters	____ centimeters

- c. The envelope is ____ centimeters longer than the crayon.

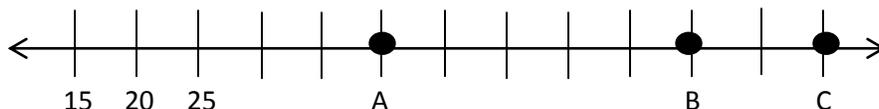
d. For each measurement, which is greater, the number of inches or the number of centimeters?

e. Explain why.

2. Circle the appropriate tool for measuring each object.

- | | | |
|--------------------------------|---------------|-----------|
| a. The length of a book: | 12-inch ruler | yardstick |
| b. The height of a flagpole: | 12-inch ruler | yardstick |
| c. The length of a paper clip: | 12-inch ruler | yardstick |
| d. The height of a doorway: | 12-inch ruler | yardstick |

3. a. What number is represented as Point A on the number line? _____



b. What is the distance between A and B? _____

c. What is 40 less than the number marked by Point C? Mark it as Point D on the number line.

4. Use the tables below to graph the data.
- a. Draw and label a line plot to show the length of the pencils in the table.

Length in Inches	Number of Pencils
1 inch	0
2 inches	2
3 inches	4
4 inches	4
5 inches	3
6 inches	2
7 inches	5

Title _____

- b. Find the total number of pencils measured. _____

- c. Draw and label a bar graph to show the number of pencils in each student's desk.

Student Name	Jill	Sven	Rocco	Lyla
Number of Pencils	4	2	5	1

Title: _____

7

6

5

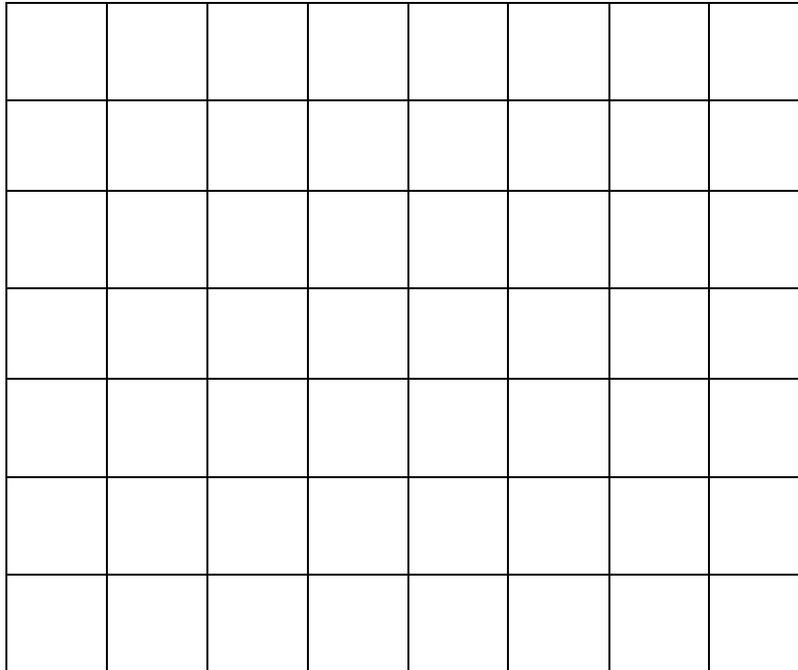
4

3

2

1

0



5. Draw a picture, and write a number sentence to solve.
- The height of the dog’s doorway is 19 inches. The height of the family’s doorway is 78 inches. How much taller is the family’s doorway than the dog’s doorway?
 - Albert saved 42 cents last week. This week, he added a quarter, 2 dimes, and 13 pennies to his savings. How much money has Albert saved from the last two weeks? Write the answer using the \$ or ¢ symbol.

Standards Addressed**Use place value understanding and properties of operations to add and subtract.**

- 2.NBT.5** Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

Measure and estimate lengths in standard units.

- 2.MD.1** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- 2.MD.2** Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
- 2.MD.3** Estimate lengths using units of inches, feet, centimeters, and meters.
- 2.MD.4** Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Relate addition and subtraction to length.

- 2.MD.5** Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.
- 2.MD.6** Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.

Work with time and money.

- 2.MD.8** Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using \$ and ¢ symbols appropriately. *Example: If you have 2 dimes and 3 pennies, how many cents do you have?*

Represent and interpret data.

- 2.MD.9** Generate measurement data by measuring lengths of several objects to the nearest whole unit, or making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
- 2.MD.10** Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.

Evaluating Student Learning Outcomes

A Progression Toward Mastery is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency*. In this chart, this progress is presented from left (Step 1) to right (Step 4). The learning goal for students is to achieve Step 4 mastery. These steps are meant to help teachers and students identify and celebrate what the students CAN do now and what they need to work on next.

A Progression Toward Mastery				
Assessment Task Item and Standards Assessed	STEP 1 Little evidence of reasoning without a correct answer. (1 Point)	STEP 2 Evidence of some reasoning without a correct answer. (2 Points)	STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points)	STEP 4 Evidence of solid reasoning with a correct answer. (4 Points)
<p>1</p> <p>2.MD.2</p> <p>2.MD.3</p> <p>2.MD.4</p>	<p>The student answers fewer than four out of eight parts correctly.</p>	<p>The student answers four or five out of eight parts correctly.</p>	<p>The student answers six or seven out of eight parts correctly.</p>	<p>The student correctly:</p> <ol style="list-style-type: none"> Estimates the length of each item. Measures to the nearest whole unit to answer: <ul style="list-style-type: none"> ▪ The envelope is about 4 in and 10 cm. ▪ The pencil is about 6 in and 15 cm. ▪ The crayon is about 3 in and 8 cm. ▪ The scissors are about 5 in and 13 cm. Answers that the envelope is 2 cm longer than the crayon. Answers centimeters.



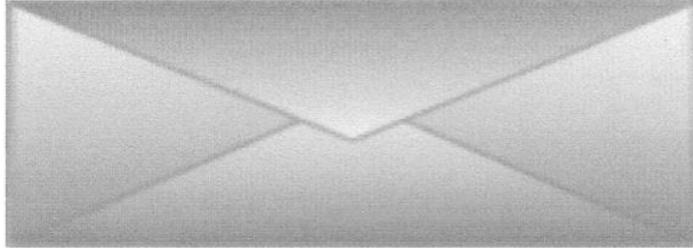
A Progression Toward Mastery				
				e. Explains that centimeters have a smaller length unit than inches, so there are more centimeters than inches.
2 2.MD.1	The student answers one out of four parts correctly.	The student answers two out of four parts correctly.	The student answers three out of four parts correctly.	The student correctly answers: a. 12-inch ruler. b. Yardstick. c. 12-inch ruler. d. Yardstick.
3 2.MD.6	The student answers zero out of three parts correctly.	The student answers one out of three parts correctly.	The student answers two out of three parts correctly.	The student correctly: a. Answers 40. b. Answers 25. c. Labels D on the number line at 35.
4 2.MD.9 2.MD.10	The student answers one out of five parts correctly.	The student answers two or three out of five parts correctly.	The student answers four out of five parts correctly.	The student correctly: a. Draws and labels a line plot to represent the given data. b. Answers 20 pencils. c. Draws and labels a bar graph to represent the given data.
5 2.MD.5 2.MD.8 2.NBT.5	The student answers one out of six parts correctly.	The student answers two or three out of six parts correctly.	The student answers four or five out of six parts correctly.	The student correctly: a. Draws a picture (e.g., tape diagram), writes a number sentence, and solves to get 59 inches. b. Draws a picture, writes a number sentence, and solves to get \$1 or 100¢.

Name Teri Date _____

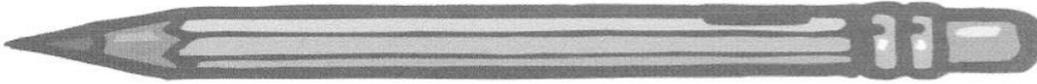
Note: Do not pass out rulers until after students complete Problem 1(a).

1. a. Estimate the length of each item in inches.

The envelope is about 4 inches.



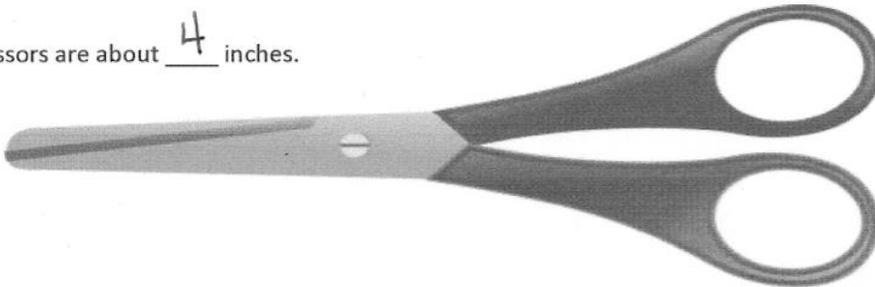
The pencil is about 5 inches.



The crayon is about 3 inches.



The scissors are about 4 inches.



b. Use a ruler to measure the length of the items above using inches and then centimeters. Round to the nearest unit, and then record the measurements in the table.

Envelope	Pencil	Crayon	Scissors
<u>4</u> inches	<u>6</u> inches	<u>3</u> inches	<u>5</u> inches
<u>10</u> centimeters	<u>15</u> centimeters	<u>8</u> centimeters	<u>13</u> centimeters

c. The envelope is 2 centimeters longer than the crayon.

d. For each measurement, which is greater, the number of inches or the number of centimeters?

Centimeters

e. Explain why.

Centimeters have a shorter length unit than inches so more centimeters are needed to measure than inches.

2. Circle the appropriate tool for measuring each object.

a. The length of a book:

12-inch ruler

yardstick

b. The height of a flagpole:

12-inch ruler

yardstick

c. The length of a paper clip:

12-inch ruler

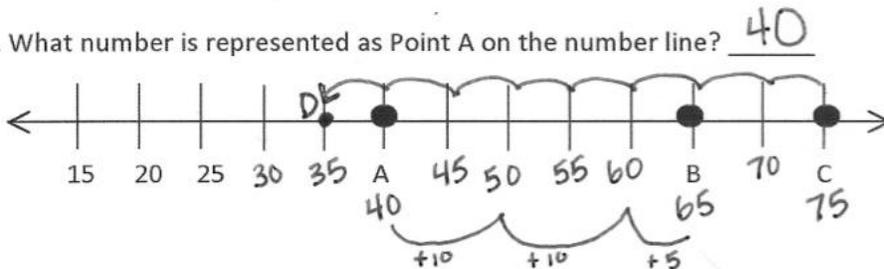
yardstick

d. The height of a doorway:

12-inch ruler

yardstick

3. a. What number is represented as Point A on the number line? 40



b. What is the distance between A and B? 25

$$10 + 10 + 5 = 25$$

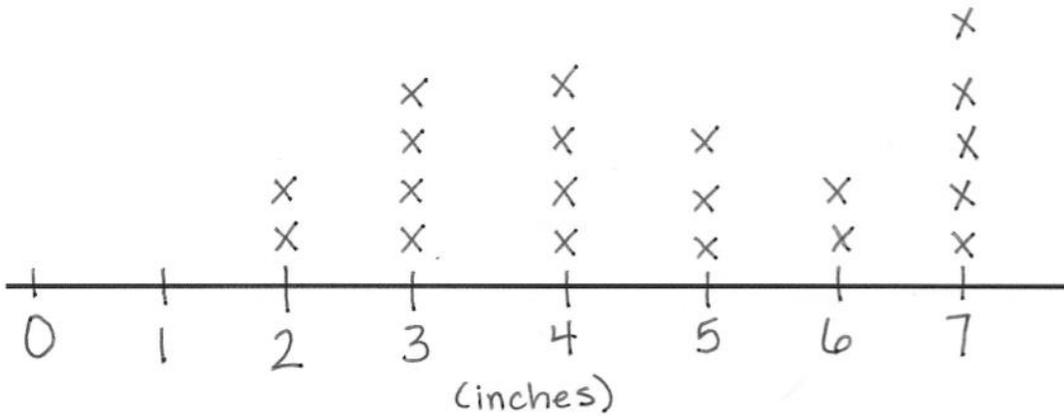
c. What is 40 less than the number marked by Point C? Mark it as Point D on the number line.

$$75 - 40 = 35$$

4. Use the tables below to graph the data.
 a. Draw and label a line plot to show the length of the pencils in the table.

Length in inches	Number of Pencils
1 inch	0
2 inches	2
3 inches	4
4 inches	4
5 inches	3
6 inches	2
7 inches	5

Title Pencil Lengths



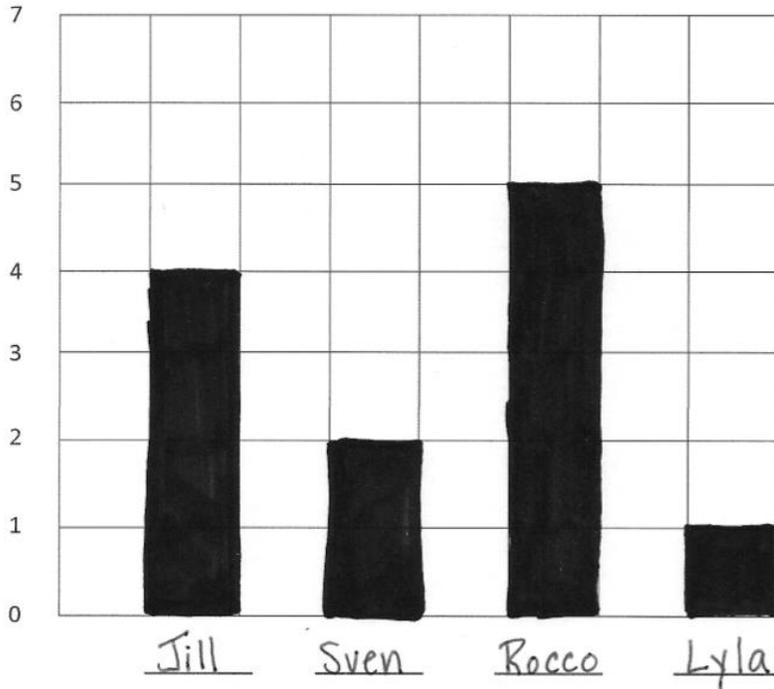
- b. Find the total number of pencils measured. 20

$$\begin{array}{r}
 2 + 8 + 5 + 5 \\
 \checkmark \quad \checkmark \\
 10 + 10 = 20
 \end{array}$$

c. Draw and label a bar graph to show the number of pencils in each student's desk.

Student Name	Jill	Sven	Rocco	Lyla
Number of Pencils	4	2	5	1

Title: Pencils in Desk



5. Draw a picture and write a number sentence to solve.

a. The height of the dog's doorway is 19 inches. The height of the family's doorway is 78 inches. How much taller is the family's doorway than the dog's doorway?

$$\begin{array}{r} 78 \\ -19 \\ \hline 59 \end{array}$$

59 inches
The family's doorway is 59 inches taller.

b. Albert saved 42 cents last week. This week he added a quarter, 2 dimes, and 13 pennies to his savings. How much money has Albert saved from the last two weeks? Write the answer using the \$ or ¢ symbol.

$$25¢ + 20¢ + 13¢ = 58¢$$

$$42¢ + 58¢ = 100¢$$

\$1 or 100¢
Albert saved \$1.