Eureka Math

2nd Grade
Module 7
Lesson 21

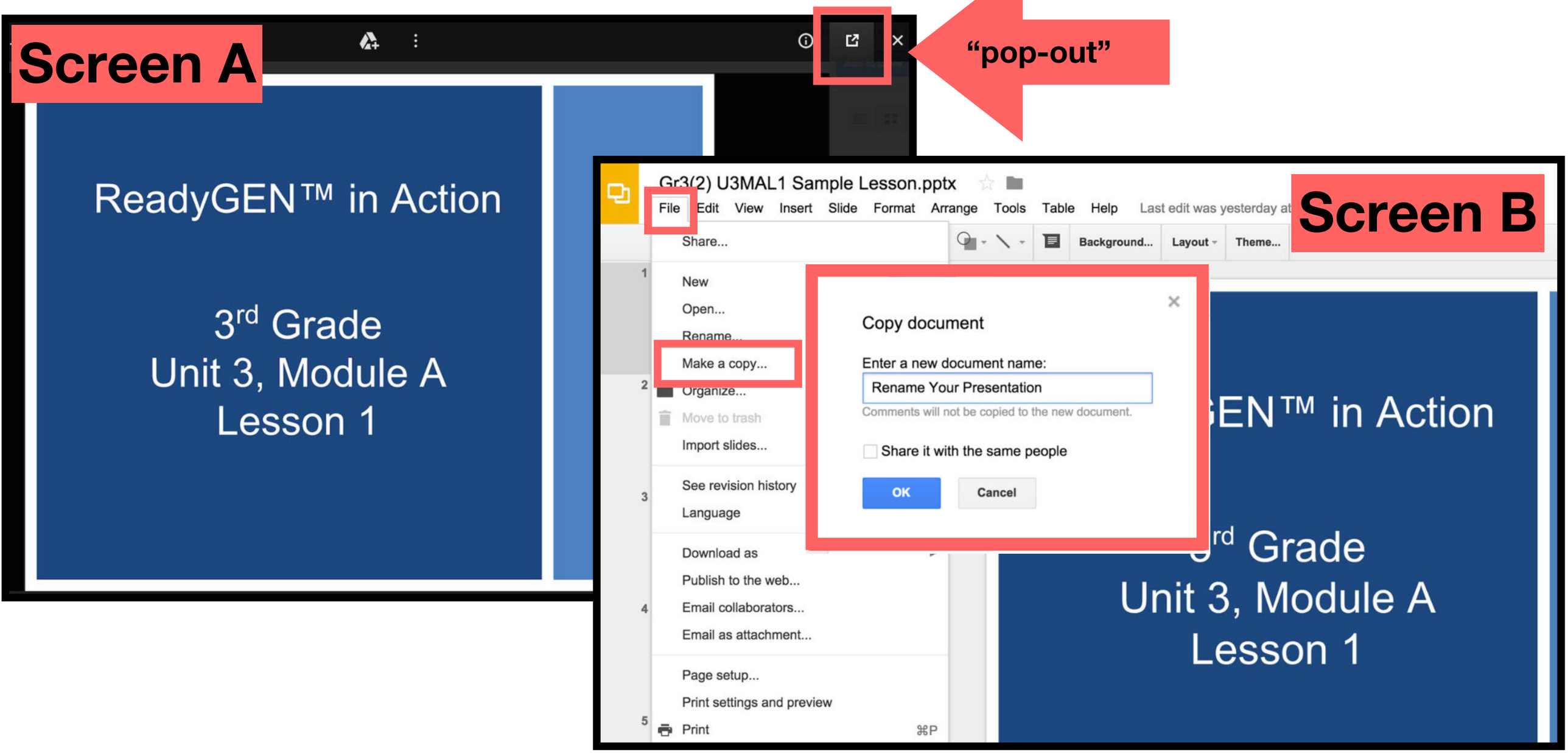
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this project!

Directions for customizing presentations are available on the next slide.

Customize this Slideshow

Reflecting your Teaching Style and Learning Needs of Your Students

- ➢ When the Google Slides presentation is opened, it will look like Screen A.
- ➢ Click on the “pop-out” button in the upper right hand corner to change the view.
- ➢ The view now looks like Screen B.
- ➢ Within Google Slides (not Chrome), choose FILE.
- ➢ Choose MAKE A COPY and rename your presentation.
- ➢ Google Slides will open your renamed presentation.
- ➢ It is now editable & housed in MY DRIVE.



Icons

Read, Draw, Write

Learning Target

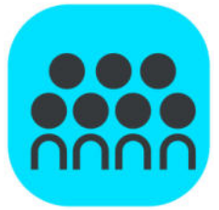
Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

Small Group Time

Materials Needed:

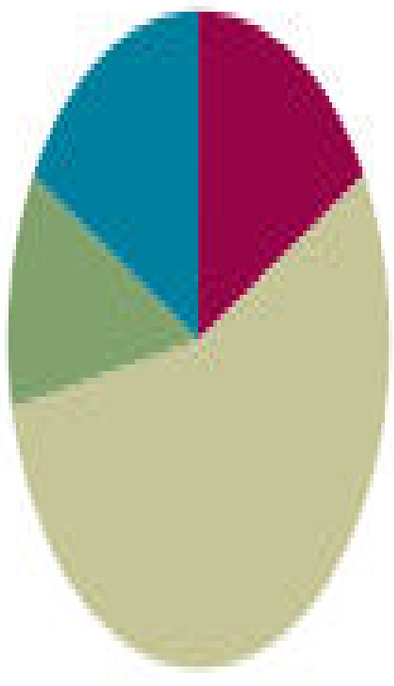
Materials:
Fluency - Role and Follow the rule
Core Fluency Differentiated Practice Sets
(T) Meter Strip template, ruler
(S) Meter Strip template, ruler, personal white board

Lesson 21

Objective: Identify unknown numbers on a number line diagram by using the distance between numbers and reference points.

Suggested Lesson Structure

Fluency Practice	(10 minutes)
Application Problem	(7 minutes)
Concept Development	(33 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



I can identify unknown numbers on a number line diagram by using the distance between numbers and reference points.

Sprint

A STORY OF UNITS | Lesson 1 Core Fluency Practice Set A | 2•6

A STORY OF UNITS | Lesson 1 Core Fluency Practice Set B | 2•6

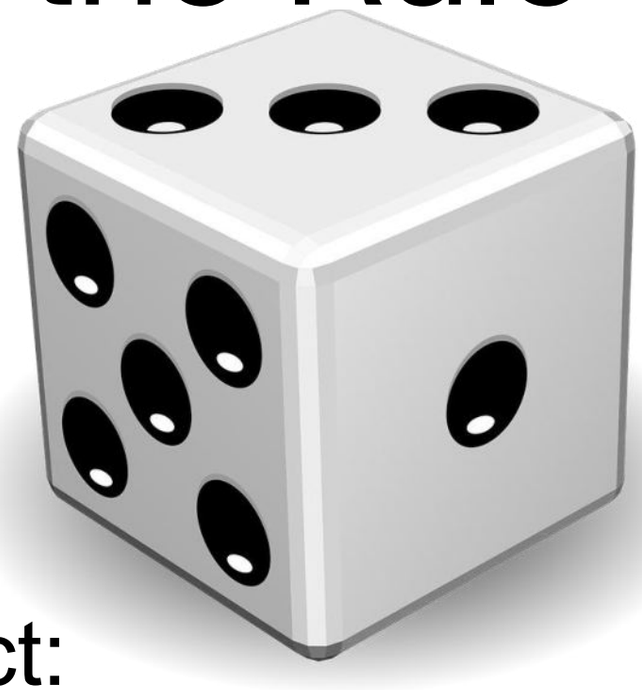
A STORY OF UNITS | Lesson 1 Core Fluency Practice Set C | 2•6

A STORY OF UNITS | Lesson 1 Core Fluency Practice Set D | 2•6

Name _____ Date _____

1.	19 – 9 =	21.	16 – 7 =

Role and Follow the Rule



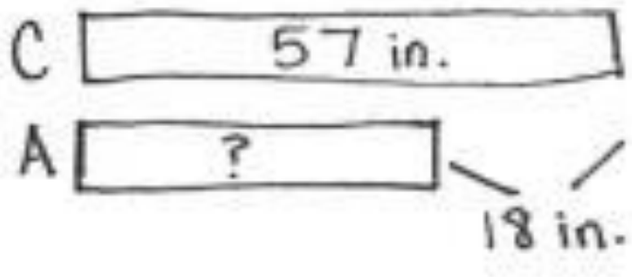
Start with these numbers:
Roll the die to find “rule”.

7	Subtract:
9	40
38	100
156	
291	

Application Problem

To ride the Mega Mountain roller coaster, riders must be at least 44 inches tall. Caroline is 57 inches tall. She is 18 inches taller than Addison.

How tall is Addison? How many more inches must Addison grow to ride the roller coaster?



57 − 18 = ?

18 + 39 = 57

18 $\xrightarrow{+40}$ 58 $\xrightarrow{-1}$ 57

Addison is 39 in. tall.

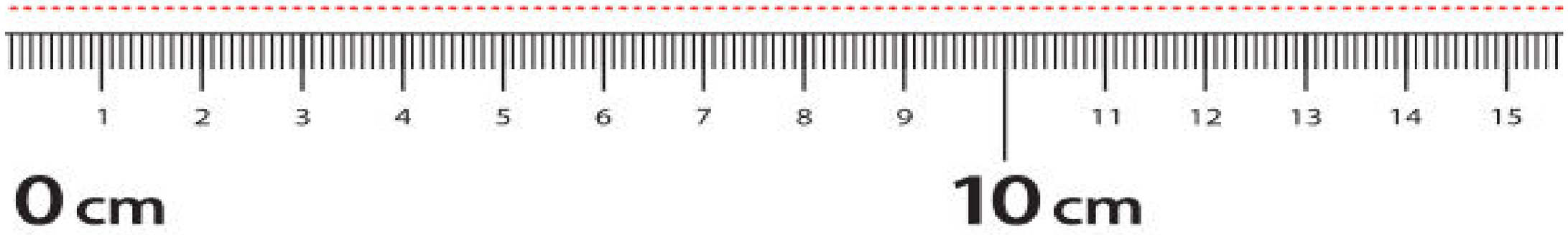
39 + □ = 44

39 $\xrightarrow{+1}$ 40 $\xrightarrow{+4}$ 44

Addison must grow 5 in.

Concept Development

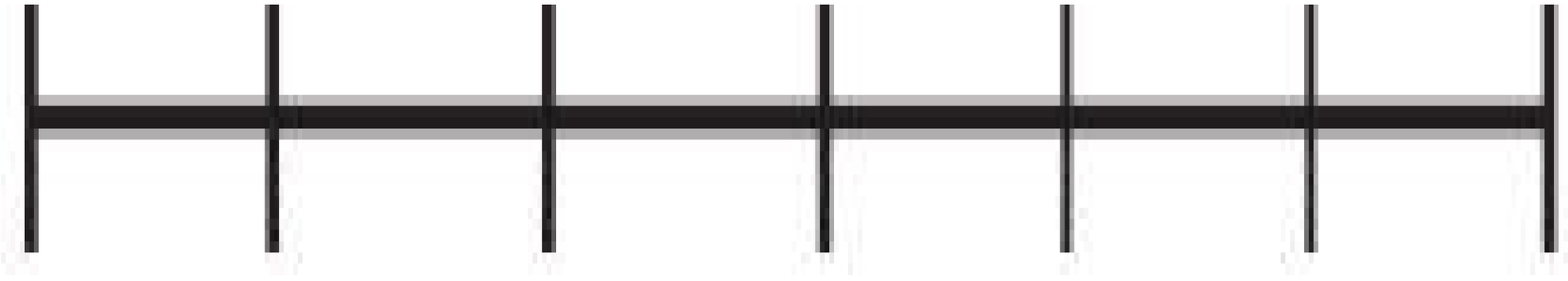
Part 1: Identify missing points on a number line



What are the **endpoints** on your meter strip?

1 meter is **how many centimeters**?

Draw <u>hash marks</u>



Concept Development

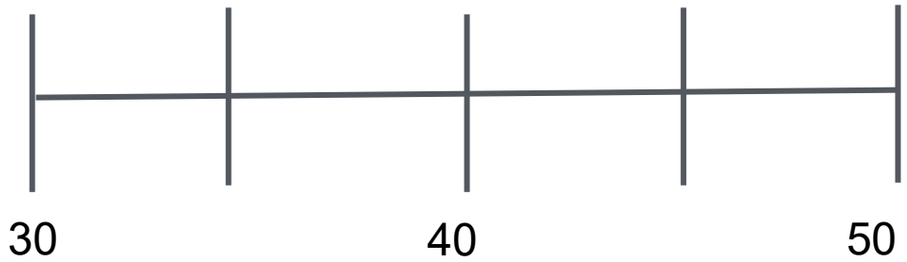
Part 1: Identify missing points on a number line

Let’s draw a number line to represent this part of the meter strip.

Concept Development

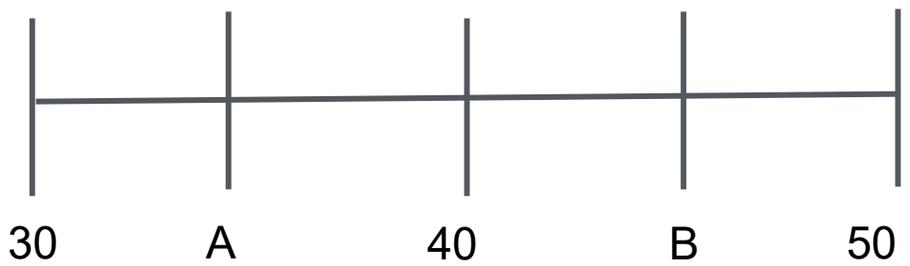
Part 1: Identify missing points on a number line

Watch as I draw a hash mark in the middle, equal distances from both endpoints. The length between hash marks is a unit. Let's count the units together.



Concept Development

Part 1: Identify missing points on a number line



How many hash marks are on our number line?

How many units do we have on our number line now?

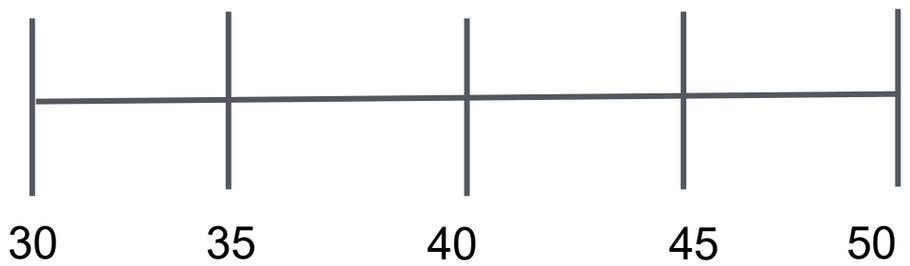
The units are lengths. Put your finger on 30, let's slide to the next mark to count the units.

Turn and talk: What are the values of Point A and Point B? How do you know?

Label them.

Concept Development

Part 1: Identify missing points on a number line



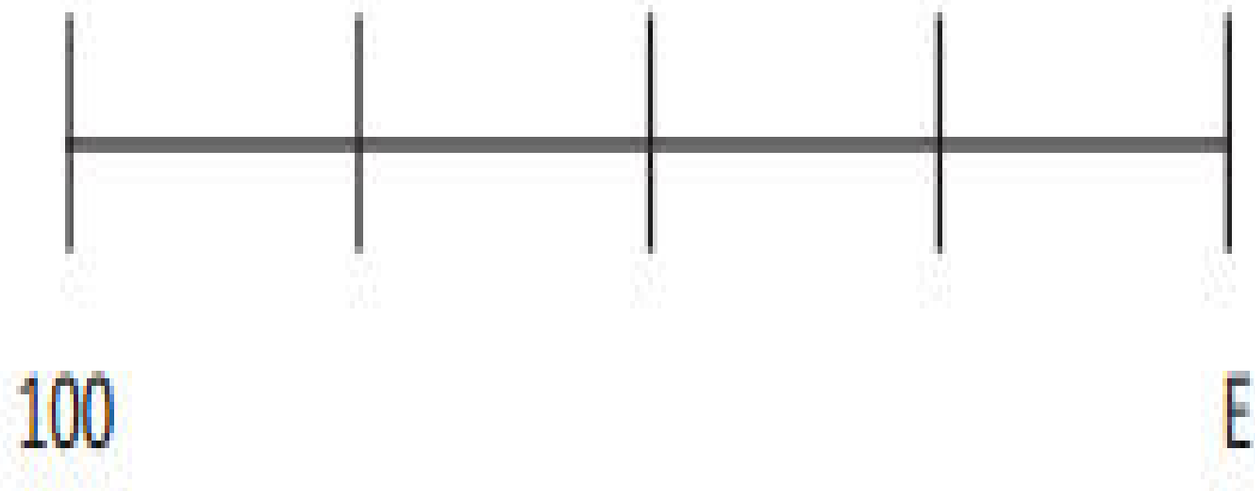
What is the length of each unit?

What happens when we add them all together?

Concept Development

Part 2: Use the length to count up or down to figure out endpoints.

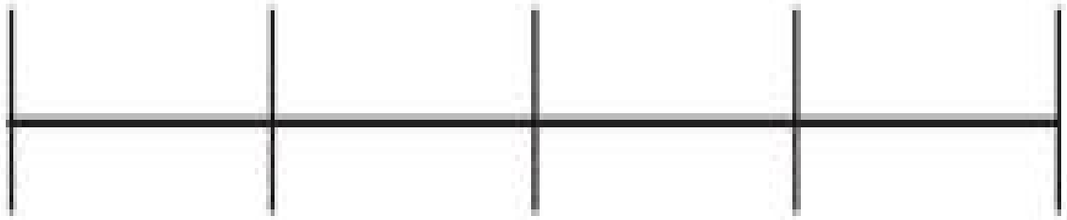
Use the unit length to count up or down to figure out endpoints.



Concept Development

Part 3: Vary the position of the unknown on the number line.

Now, draw a number line that is just the same as your other one on your personal white board wi 4 units (5 hash marks) and a right endpoint of 95. Label the left endpoint with an A. Look at the number line on the board if you need help.



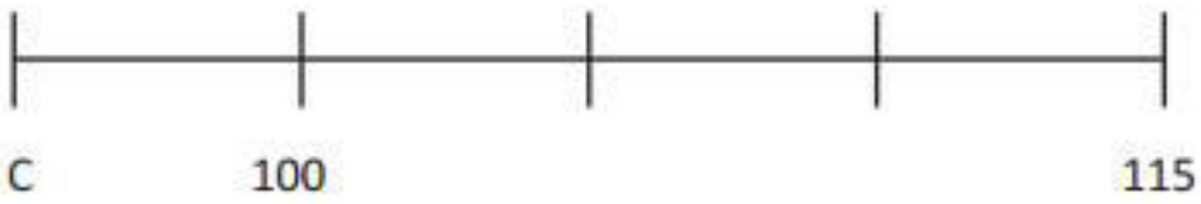
Concept Development

Part 3: Very the position of the unknown on the number line.

Continue the work using a sequence of problems such as the following to prepare students for the Problem Set:

1. Find the value of Point B on the number line.

2. Find the value of Point C on the number line. What is the difference between the two endpoints?

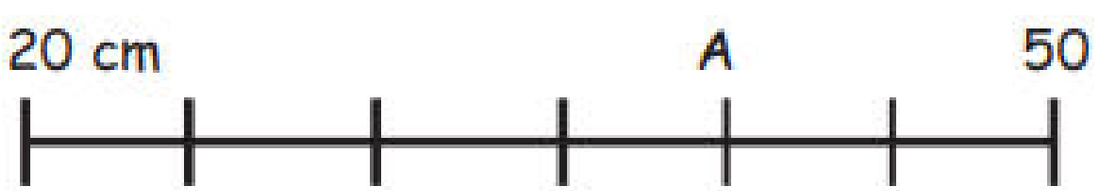


3. Find the value of Point D on the number line. Each hash mark represents a value of 10. What is the distance between the two endpoints?

Name _____ Date _____

Find the value of the point on each part of the meter strip marked by a letter.
For each number line, one unit is the distance from one hash mark to the next.

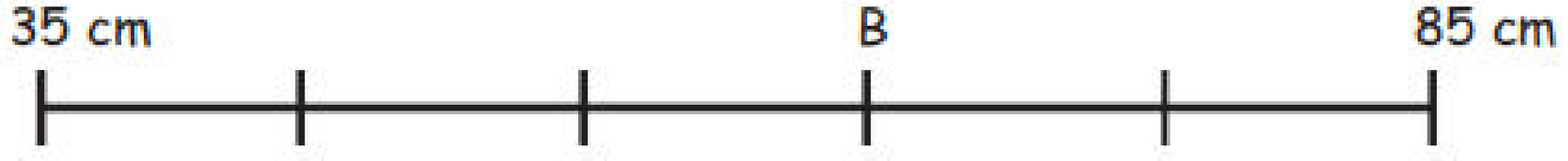
1.



Each unit has a length of _____ centimeters.

A = _____

2.



Debrief

Look at the first number line on your Problem Set. Count the hash marks. (7.) Count the units. (6.) What do you notice? Look at the second number line, and compare how many hash marks to how many units. What do you notice?

What do we count when we are counting units? (We count the spaces between the hash marks.) What do the hash marks do on a number line? (Separate the units and tell us where to write the reference points.)

Debrief

If you know the value of one unit on a number line, do you know the value of all of them?

Look at the second number line on your Problem Set. Explain to your partner the strategy you used to find the value of each unit.

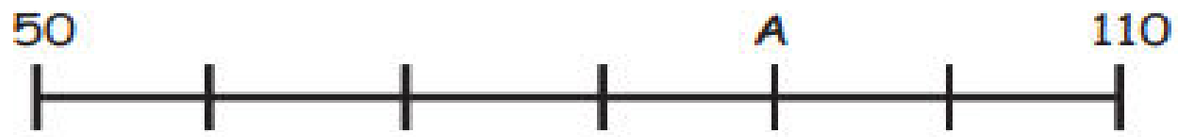
Look at Problem 4 on your Problem Set. Explain to your partner how you found the difference between endpoints.

On a yardstick, can you find two different sections that have the same difference between endpoints?

Exit Ticket

Name _____ Date _____

Find the value of the point on each number line marked by a letter.



1. Each unit has a length of _____ centimeters.

   A = _____