Assessment : 2.3 End of Unit Assessment

Problem 1

Standards Alignments

Addressing 2.MD.A.3

Narrative

The goal of this item is to assess familiarity with standard units of measure and estimating heights. Students who select A do not understand the size of a centimeter since 50 centimeters is between 1 foot and 2 feet. An answer of A is more reasonable, however, than an answer of C or D, both of which are much greater than the height of a person.

Which estimate makes the most sense for the height of a second grader?

A. 50 centimeters

B. 50 inches

C. 50 feet

D. 50 meters

Solution

B

Problem 2

Standards Alignments

Addressing 2.MD.A.1, 2.MD.A.3

Narrative

Students select an appropriate unit of measure for a small object. They need to have an intuition that feet, yards, and meters are too long to measure the length of a finger. Either centimeters or inches are appropriate. This is tied to the idea of estimation because the reason feet, yards, and meters are all inappropriate is that the appropriate length of the finger in those units would be 0.

Which 2 units of measure would you use to measure the length of a pinky finger?

A. centimeter
B. inch
C. foot
D. yard
E. meter

Solution

["A", "B"]

Problem 3

Standards Alignments

Addressing 2.MD.A.2

Narrative

Students are asked to compare the length of the same object in the two standard units of measure, centimeters and inches. They need to know that a centimeter is smaller than an inch. An additional layer of reasoning is that because centimeters are smaller than inches, it takes more of them to measure the same object, so the measurement in centimeters will be larger than the measurement in inches.

Jada measures the length of a pencil in centimeters and in inches. The two measurements are 6 and 15. Which measurement is in centimeters and which is in inches? Explain how you know.

Solution

The pencil is 6 inches or 15 centimeters in length. The length in centimeters is greater than the length in inches because centimeters are smaller than inches.

Problem 4

Standards Alignments

Addressing 2.MD.D.9

Narrative

Students add data to a line plot. The line plot has a name but no numbers have been recorded on the line, and students need to think strategically about which numbers to use on the line plot. The smallest height is 13 and the largest is 25, so they need to include these numbers.

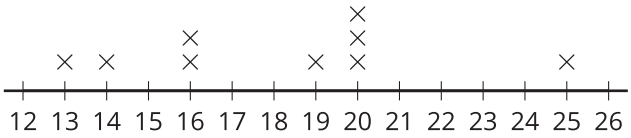
Here are the heights of some dogs, measured in inches:

20, 13, 16, 25, 20, 19, 20, 14, 16

dog heights (inches)

a. Label the line plot with numbers.
b. Plot the dog heights on the line plot.
c. What is the height of the tallest dog?

Solution



dog heights (inches)

1 and 2 sample response

3 response 25 inches

Problem 5

Standards Alignments

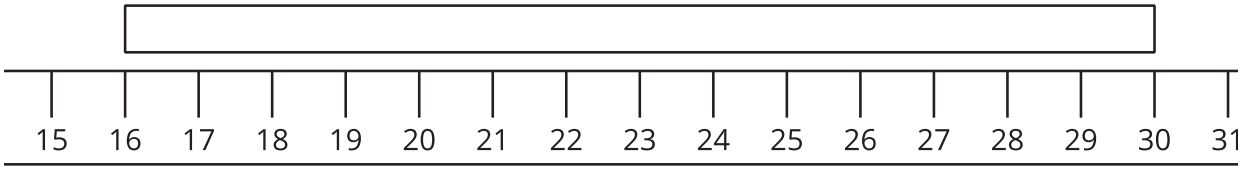
Addressing 2.MD.A.4

Narrative

Students find the length of an object in centimeters with a ruler where the end of the object is not

lined up with 0 on the ruler. The numbers are chosen to require composing or decomposing a ten unless students use a technique such as counting on or counting back.

Here is a rectangle and part of a centimeter ruler.



How many centimeters long is the rectangle? Explain your reasoning.

Solution

14 since it goes from 16 to 30 and $30 - 14 = 16$.

Problem 6

Standards Alignments

Addressing 2.MD.B.5, 2.OA.A.1

Narrative

Students solve a two-step addition problem with a measurement context. Because their answer to the second problem depends on the answer to the first problem, their work on this problem needs to be evaluated in light of their answer to the first problem. Students may draw a picture such as a tape diagram or they may write an equation. The unit of measurement, inches, is an important part of the response.

a. A frog jumped 37 inches. Then it jumped 25 more inches. How far did the frog jump altogether?
b. Then the frog jumped 29 more inches. How far did the frog jump altogether now? Explain your reasoning.

Solution

a. 62 inches, $20 + 30 = 50$, $7 + 5 = 12$, and $50 + 12 = 62$.
b. 91 inches, $60 + 20 = 80$, $2 + 9 = 11$, $80 + 11 = 91$.