

# Assessment: Purpose, Design, and Examples

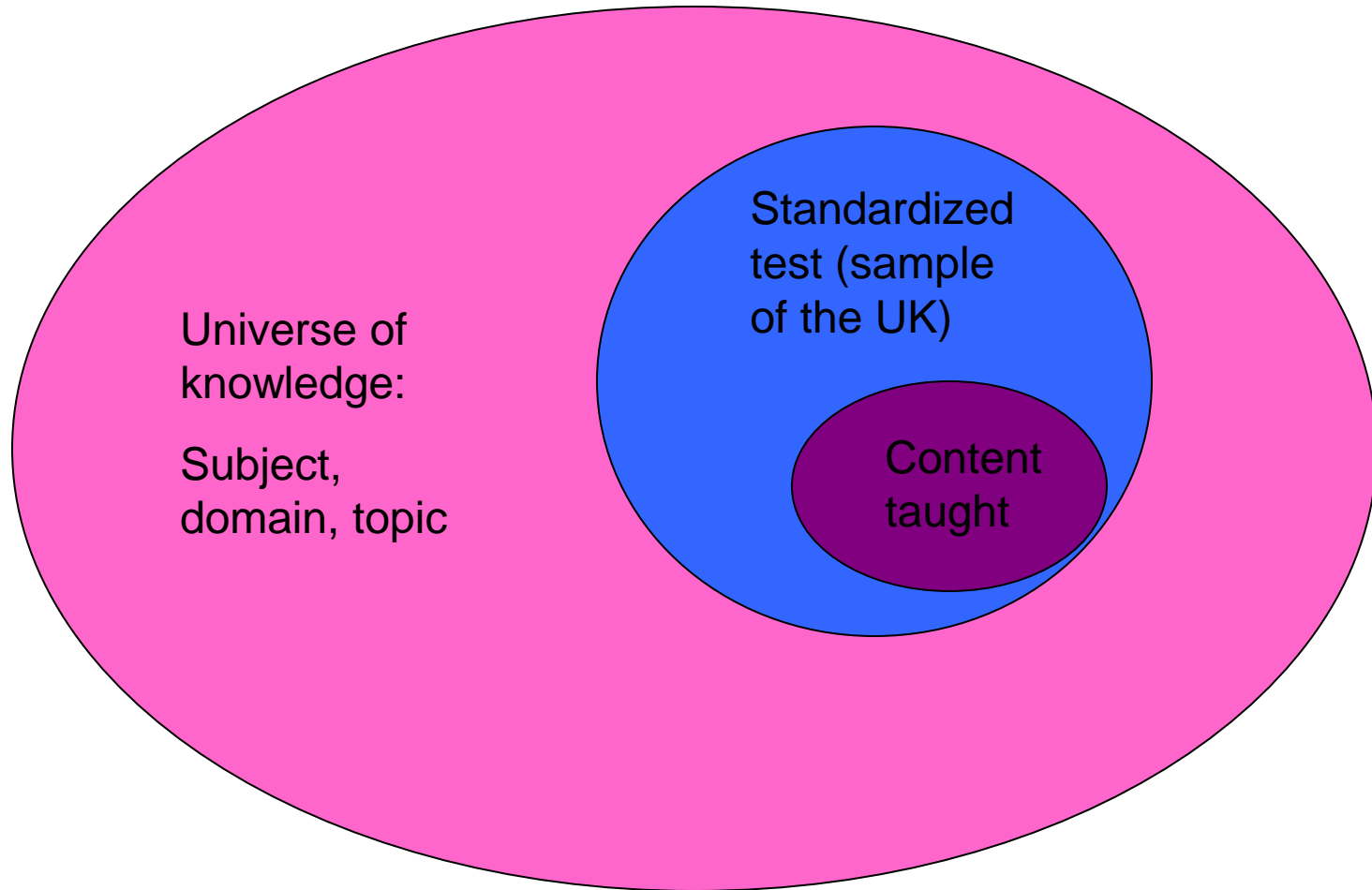
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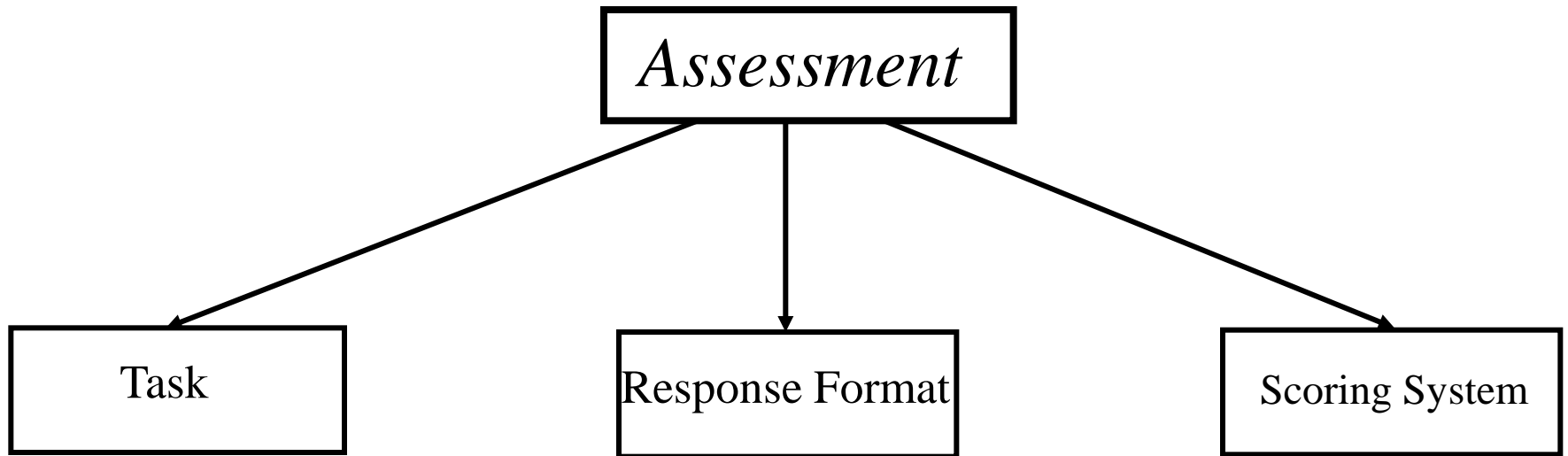
Critical Issues in Mathematics Education 2013: Assessment of  
Mathematical Proficiencies in the Age of the Common Core

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# Teaching to the test as a sample issue



# Assessment components

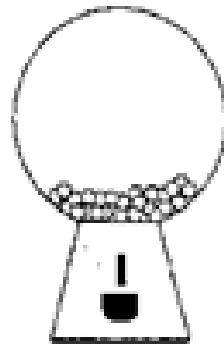


# Developing your own items/tasks

1. Start by asking, *What would I like to see my students be able to do at the end of the unit?*
2. Develop the task, the response, format, and the scoring rubric simultaneously
3. Have colleagues (content resource specialists, other teachers, ELL support person, etc.) critique your assessment.
4. Try-out the assessment with **both** ELLs and non-ELLs, include both ELLs... even if the assessment is only in English
5. Do talk-aloud protocols and/or interviews!
6. Examine responses beyond superficial features (e.g., *right or wrong*) and think about what ways of thinking the responses and interviews reflect.
7. Repeat these steps several times

# Interviewing your students: Examples of questions

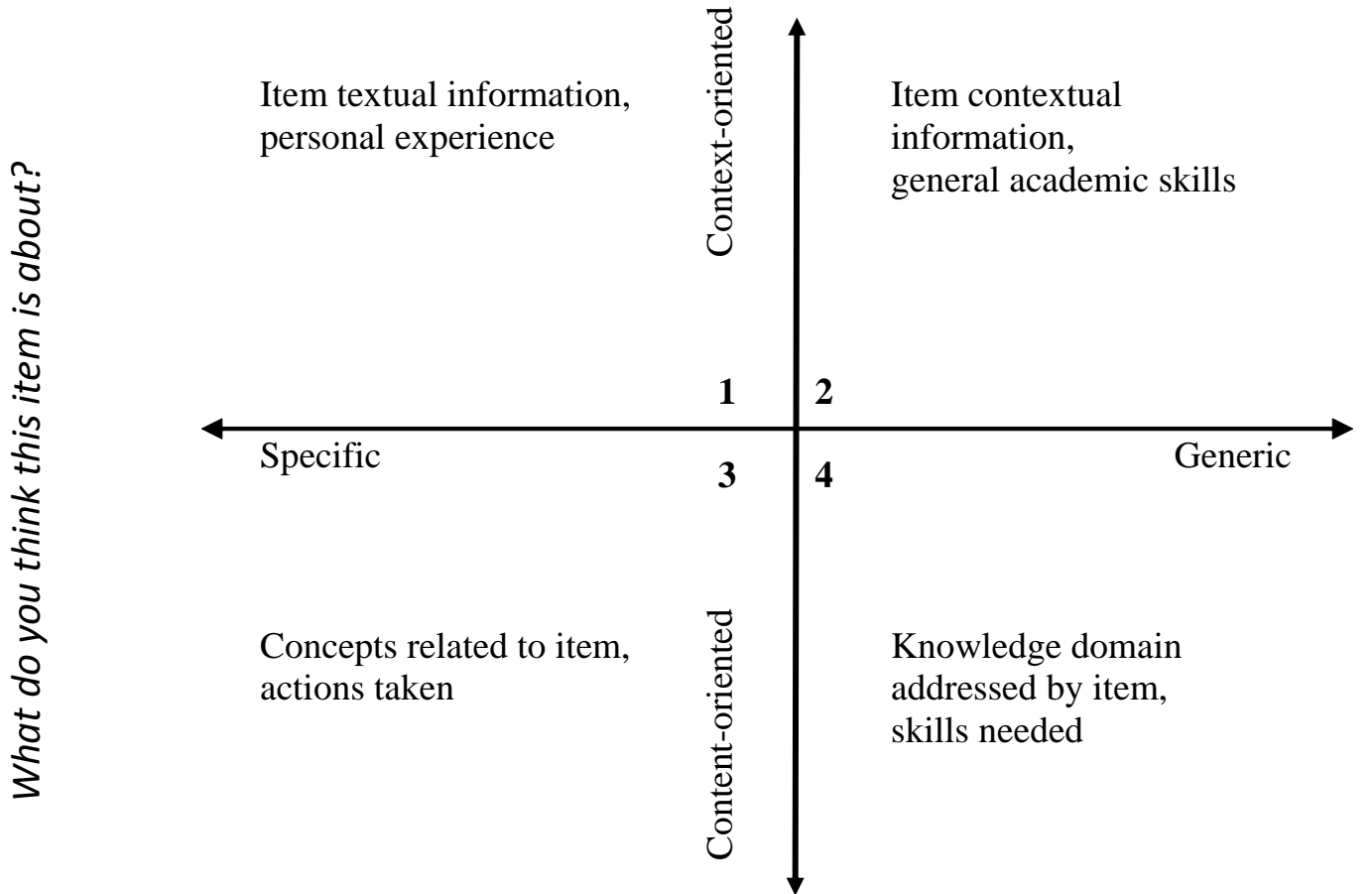
- What is this item about?
- What did you do or think to respond to it?
- What do you think you need to know to be able to respond to it correctly?
- What words did you find difficult to understand?
- How would you rephrase this item, so that anyone in the class can understand it?
- What did you do or think that made you give your answer?



20 yellow
30 blue
50 red

The gum ball machine has 100 gum balls; 20 are yellow, 30 are blue, and 50 are red. The gum balls are well mixed inside the machine. Jenny gets 10 gum balls from this machine. What is your best prediction of the number that will be red?

# Students' test views



*What do you need to be able to do to answer this exercise correctly?*

# Key to formative assessment for ELLs

How many times, on a regular school day do teachers give ELL students the opportunity to demonstrate knowledge (or do you give yourself the opportunity to learn about their progress)?



# Re-thinking assessment

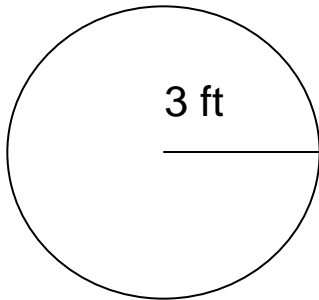
If  $A > B$ ,  $A$  is integer and  $B < 1$ , the value of

$E$  in  $E = \frac{A}{B}$  should be

- A) smaller than  $A$
- B) greater than  $A$
- C) smaller than  $B$
- D) greater than  $B$

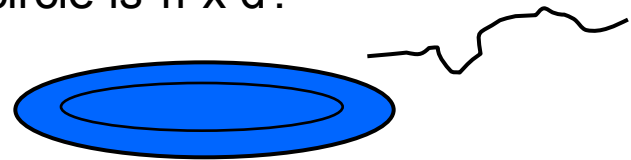
$\pi$

What is the perimeter of a circle whose radius is 3 ft? \_\_\_\_\_



What is the perimeter of the circle above? \_\_\_\_\_

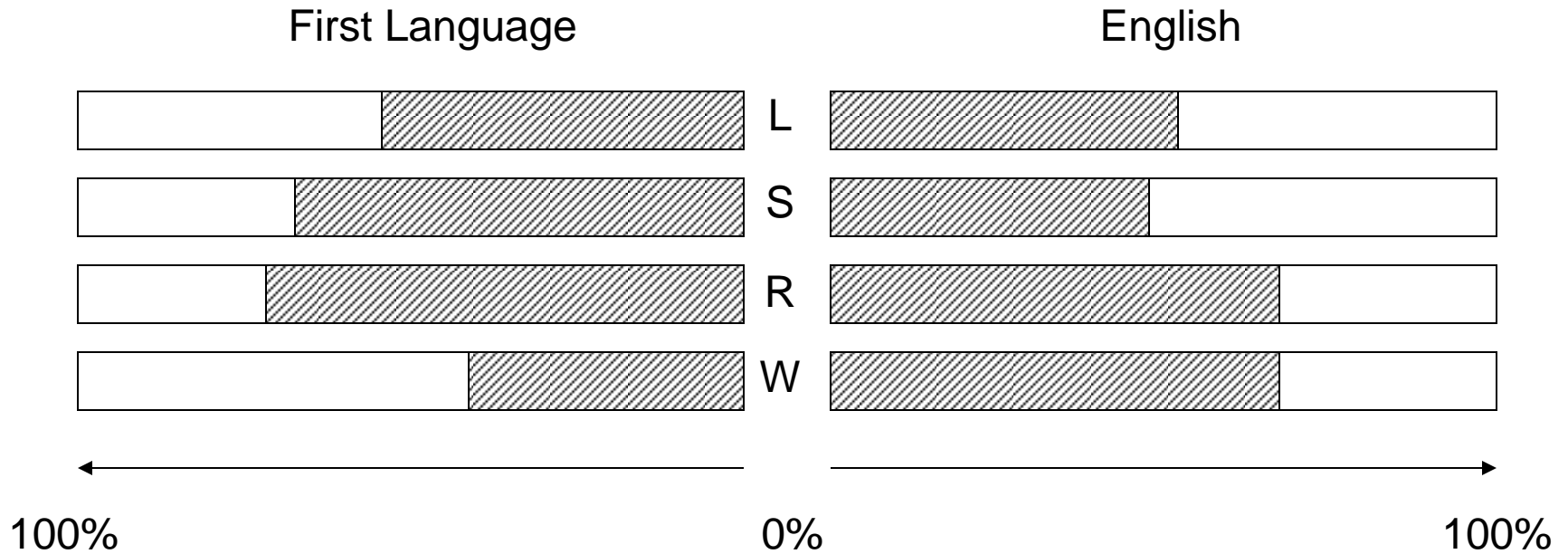
Using the plate and the string, how would you explain to a friend why the formula for calculating the perimeter of a circle is  $\pi \times d$ ?



Use words and drawings in your response.

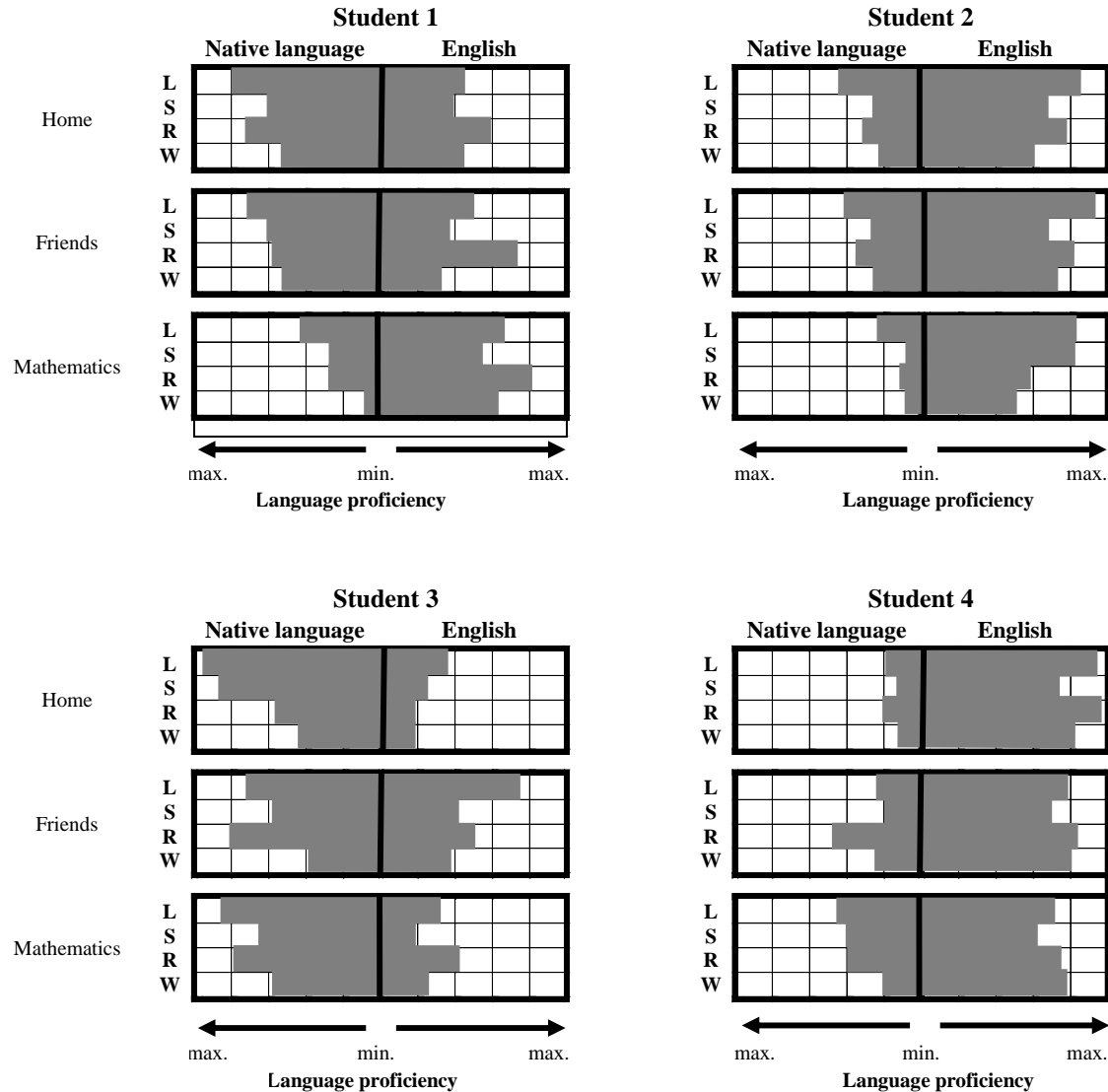
Blank box for student response.

# Linguagram



Solano-Flores, G., and Gustafson, M. (2013). Assessment of English language learners: A critical, probabilistic, systemic view. In M. Simon, K. Ercikan, & M. Rousseau (Eds.), *Improving Large Scale Assessment in Education: Theory, Issues, and Practice* (pp. 87-109). New York: Taylor & Francis: Routledge.

# Each ELL student is unique



Solano-Flores, G., and Gustafson, M. (2013). Assessment of English language learners: A critical, probabilistic, systemic view. In M. Simon, K. Ercikan, & M. Rousseau (Eds.), *Improving Large Scale Assessment in Education: Theory, Issues, and Practice* (pp. 87-109). New York: Taylor & Francis: Routledge.

# Diversifying assessment strategies

**Language:**

English

L1

English & L1

**Type of task:**

Multiple  
choice

Open  
ended

Hands  
on

Personal  
comm.

**Administration:**

Listening

Reading

W/ illustrations

**Response  
format:**

Speaking

Writing

Direct observ.

**Problem  
structure:**

Problem-  
Context

Context-  
Problem

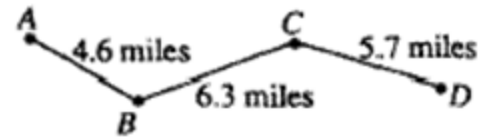
Problem

# New forms of testing accommodations



Mrs. Jones bought 6 pints of berries. Each pint cost 87¢. Mrs. Jones used her calculator to find the cost of the berries and the display showed 522. What was the cost of the berries?

- A) \$522
- B) \$52.20
- C) \$5.22
- D) \$0.52

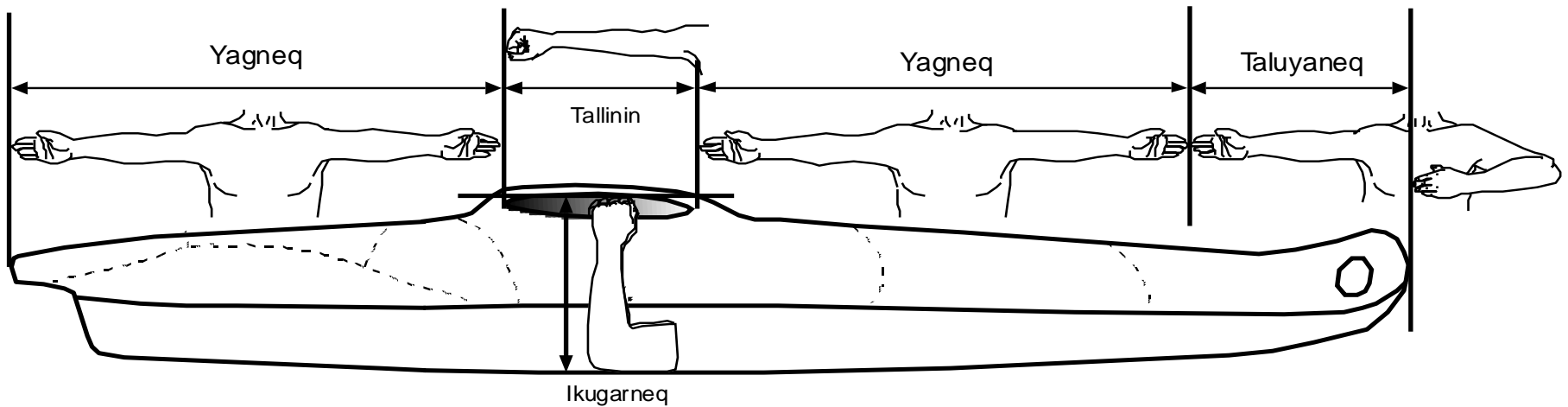


Carol wanted to estimate the distance from *A* to *D* along the path shown on the map above. She correctly rounded each of the given distances to the nearest mile and then added them. Which of the following sums could be hers?

- A)  $4 + 6 + 5 = 15$
- B)  $5 + 6 + 5 = 16$
- C)  $5 + 6 + 6 = 17$
- D)  $5 + 7 + 6 = 18$

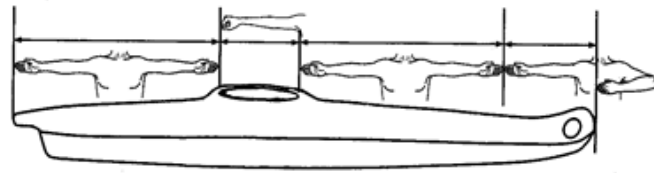
# Assessment and culture

## A KAYAK MUST FIT ITS OWNER'S BODY MEASURES

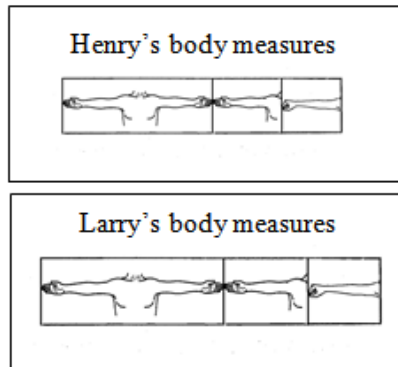


Solano-Flores, G., & Nelson-Barber, S. (2001). On the cultural validity of science assessments. *Journal of Research in Science Teaching*, 38(5), 553-573.

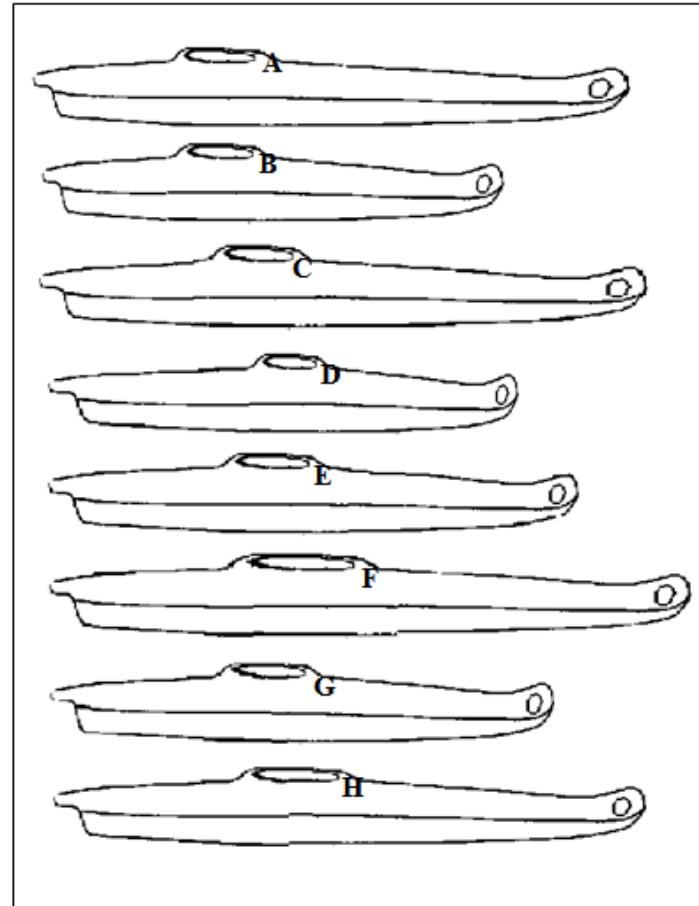
# The Kayaks task



(a)



(b)





# Making assessment meaningful

- Appropriating assessment as an activity that is critical to teaching
- Assessment development as professional development
- Collegial collaboration

# Thanks!

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