

Submitted by: Pat Godziszewski

Strategy Name: *How Do You Measure Up?* —Applied Math Skills
(Measurement)

Purpose/Objectives:

Students will demonstrate their understanding of metric and English/standard measurement in a work environment to complete a component of two projects.

Skills:

- Linear measurement
- Calculation
- Unit conversion
- Cooperative problem-solving

Directions:

Read the problem. Discuss the problem with your team to determine the best strategy for each part of the problem. Answer the questions at the end in complete sentences. Organize your data with at least one calculation in an Excel spreadsheet.

Problem #1: You and your team are responsible for the purchase of fabric for a set of banners for a European company. The specifications are listed below:

10 banners

2 meters X 5 meters

The fabric they chose is manufactured in the U.S. and comes in rolls that are 5 yards X 100 yards.

Use the chart below to determine:

The size of a banner in standard units (yards).

Calculation:

2. Show how you would lay out the banner pattern on the roll to use the fabric in the most cost efficient manner:

3. If the fabric costs \$20/ linear yard, what is the material cost for the 10 banners?

Problem #2: A different project becomes available soon after. The company that is ordering wants the following:

4 circular lampshades

LED lights around the perimeter of the lampshade on top and bottom

Specs:

Diameter: 6 ft

Height: 2 ft

1. Draw a labeled sketch of a single lampshade:

2. The fabric for this project is available in a similar size roll. Show how you would lay out the lampshade pattern on the roll to use the fabric in the most cost efficient manner:

3. How many strings of LED lights will be needed if you have 100 ft of lights per string?

4. Lights cost \$2 per string. What is the cost of the LED lights?

5. The lampshades will be mounted on flexible tubing that costs \$1.50 per linear foot. How much will the cost of the tubing be for the project? (Mounting is done on both the top and bottom edge of the lampshade)

6. Fabric cost is \$15/yard. If the cost to the customer is four times the cost of the materials, what is the cost to the customer for the project?

7. What was the most difficult part of this assignment for each person on your team? Explain why.

a.

b.

c.

d.