S.T.E.M.

Project Based Learning with the ButtOn Chair

CALCULATING COST

CCSS.MATH.CONTENT.7.G.B.6
Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

CCSS.MATH.CONTENT.7.RP.A.3
Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

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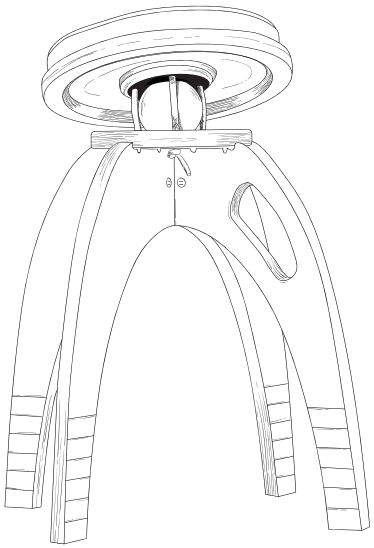

the button chair by QOR360®

BUTTONCHAIRS.ORG

Cost of ButtOn Chair

Name:
Date:
Class:

Directions

- Show as much work as possible.
- Type your equations into the document.
- You are allowed to use a calculator.

The cost of a **48in X 96in** piece of maple plywood costs $50.00. To make a ButtOn Chair only a portion of the sheet of plywood is used. Complete the questions below to calculate the cost per square inch of the maple plywood. There is also a **6% sales tax** that needs to be included in your answer.

1. Calculate the AREA of the entire piece of plywood that measures 48in X 96in. Use Area = Length (Width) as your equation.

2. Calculate the AREA of the piece of plywood used to build the ButtOn Chair. It measures 19in X 34in. Use Area = Length (Width) as your equation.

3. The cost of the piece of plywood is $50.00. Calculate the 6% sales tax on the plywood. Add the price and the tax together to get the total cost of the 48in X 96in sheet of maple plywood.

Complete the table with the answers from questions 1-3.

Area of 48in X 96in Maple Plywood	
Area of 19in X 34in Maple Plywood	
Cost of Maple Plywood with Tax	

4. Create a ratio of the areas to determine what percent of the original piece of plywood is used to build the ButtOn Chair.

5. Now that you know what percent of the plywood is used to build the ButtOn Chair, use the percent and calculate how much it will cost to build one ButtOn Chair. Use a proportion to solve.