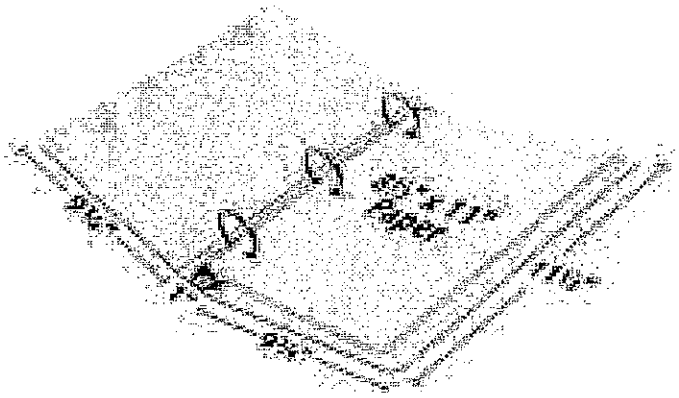
STUDENT MATERIALS

In a Bind for Boxes

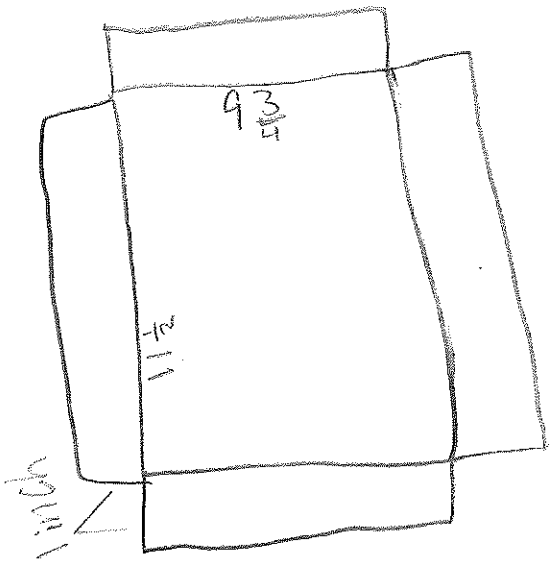
School supplies are in high demand right now, but not all the packaging has been designed. As a packaging engineer, you have been hired to create a box to ship individual binders. The dimensions for the binders are below.



Dimensions of binder: $9\frac{3}{4}$inches by 1 inch by $11\frac{1}{2}$ inches

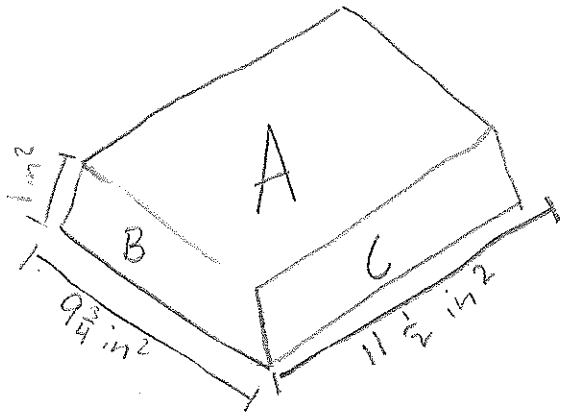
Task 1.

Draw a net for a rectangular prism that will fit the binder. The dimensions for the binder are above, so be sure to label the sides. Remember a net must be in one piece and be able to fold into a three-dimensional figure.



Task 2

Draw the 3-dimensional diagram of the box you created above. Be sure to label side lengths.



Task 3

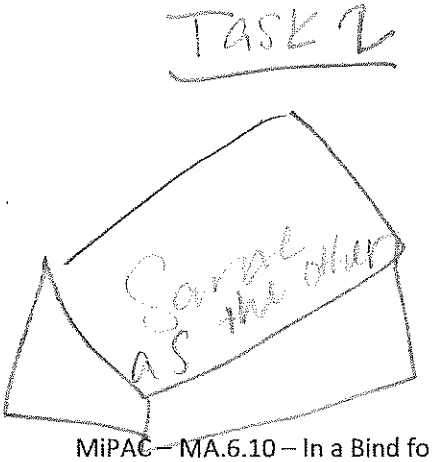
Determine how much cardboard would be needed for the box you designed in square inches.

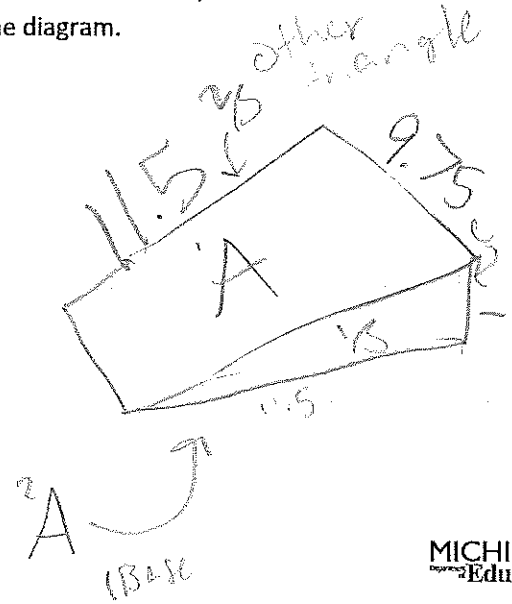
1 C: $11\frac{1}{2}$ in² 2 C: $11\frac{1}{2}$ in²
1 B: $9\frac{3}{4}$ in² 2 B: $9\frac{3}{4}$ in²
1 A: $11\frac{1}{2}$ in² 2 A: $11\frac{1}{2}$ in²

266.75 in²

Task 4

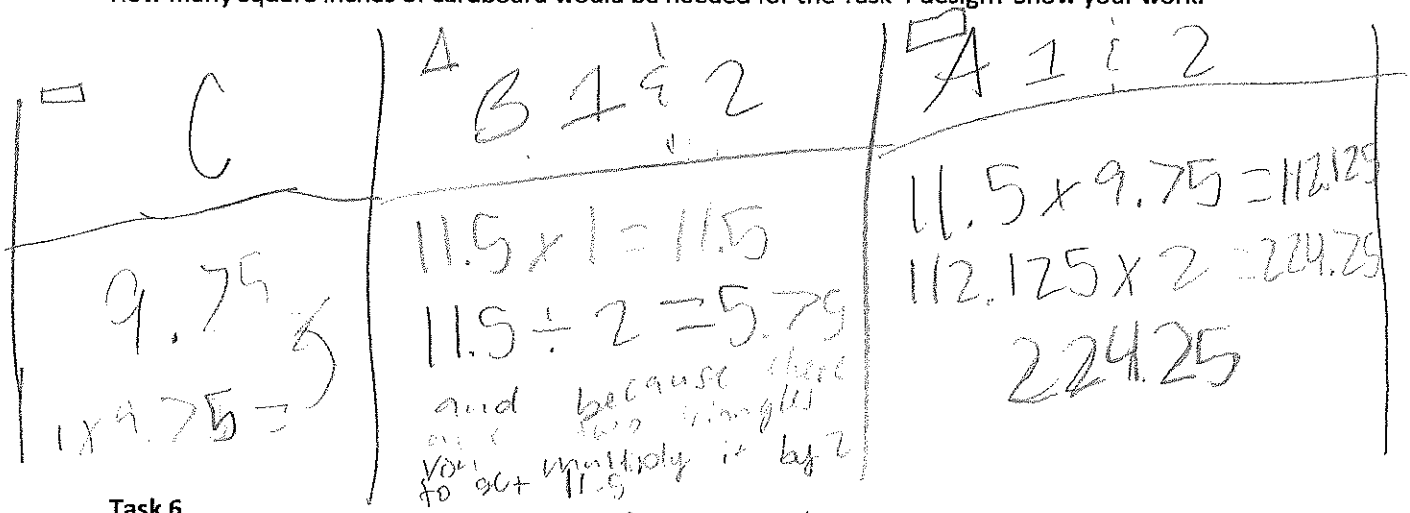
Now, design another box using a different 3-dimensional shape. Be sure to create the box for the same binder pictured in Task 1. Draw and label the diagram.





Task 5

How many square inches of cardboard would be needed for the Task 4 design? Show your work.



Task 6

Which of your two boxes should the company choose to send the binders? Why? Explain your reasoning.

the company should sell the 3-dimentional shape from task 2. because it has a bigger surface area, and that means it has more room.