

Name _____

Date _____

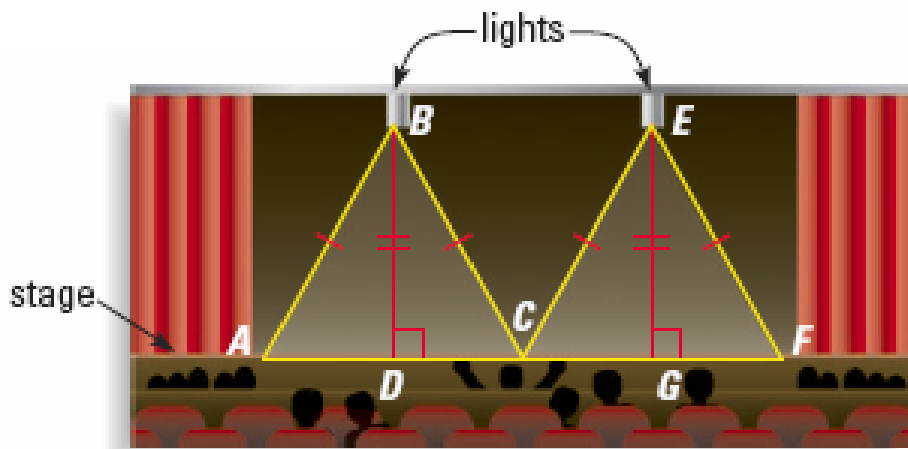
Open-ended Task: Geometry Chapter 5

Directions:

To receive full credit you must do the following:

1. Show OR describe each step of your work, even if you did it in your head (“mental math”) or used a calculator,
AND
2. Write an explanation stating the mathematical reason(s) why you chose each of your steps.

Question: The diagram below is a plan showing the light created by two spotlights. Both spotlights are the same distance from the stage.



A. Show that $\triangle ABD \cong \triangle CBD$. Tell what theorem or postulate you use and explain your reasoning.

B. Is there another way to show $\triangle ABD \cong \triangle CBD$? Explain your reasoning.

C. Are all four right triangles in the diagram congruent? Explain your reasoning.