

Pre/Post-Quiz Answer Key

1. Which polygon(s) create the strongest structure?
a) square **b) hexagon** c) circle d) triangle e) trapezoid
2. What are tension forces?
a) forces transmitted when an object is pulled equally from each end
b) forces transmitted when an object is pulled more strongly from one end of an object than another
c) forces transmitted from pulling from only one end of an object
3. What are normal forces?
a) the component of the force parallel to the surface of contact (plane)
b) the component of the force at a 45 degree angle to the surface of contact (plane)
c) the component of the force perpendicular to the surface of contact (plane)
4. Explain what a flexure test does.
Must state that tension forces are involved.
5. Describe how you can complete a flexure test in our classroom.
We will secure one end of the material being tested on one end of the lab table. We will hang a load at the end of the test material in half pound increments. Use a meter stick to determine the amount of tension.
6. Why would you use a scatter plot to graph the results of your testing data?
To find the highest amount of weight the hockey stick can withstand before failing.
7. What do you think is the most important step in the engineering design process? Explain your answer.
Must be a step in the process, must support answer.
8. Using your knowledge of polygons, what polygon will you incorporate into your sled stick design? Why?
Must reflect on their initial design and support their answer.