**Engineering Design Quiz Answers**

1. **In engineering, the design process begins when…**
   1. information about an existing product is gathered by an engineer
   2. an engineering design team comes up with ideas for a new product
   3. a design engineer recognizes the need for a solution to a problem
2. **Identifying the “target population” or “target audience” occurs during which step of the engineering design loop?**
   1. Identify the Need
   2. Research the Problem
   3. Develop Possible Solutions
3. **Engineers must understand the difference between requirements and constraints. Let’s say a team of engineers is asked to design a pair of kids’ tennis shoes for less than $20. They determine that the only way to manufacture shoes for this price is to use recycled materials. What is the team’s *constraint*?**
   1. The shoes must be designed for kids
   2. The shoes must be made out of recycled materials
   3. The shoes must cost less than $20 to manufacture
4. **During a brainstorming session we want to focus *more* on:**
   1. quantity of ideas rather than quality
   2. quality of ideas rather than quantity
5. **Which step of the engineering design loop distinguishes an engineer from a technician?**
   1. Construct a Prototype
   2. Test and Evaluate a Prototype
   3. Redesign
6. **Although the terms “model” and “prototype” are often used interchangeably, they are not the same thing. A \_\_\_\_\_\_\_ is used to test different aspects of a product before the design is finalized. A \_\_\_\_\_\_ is used to demonstrate or explain how a product will look or function.**
   1. model, prototype
   2. prototype, model
7. **When following the engineering design loop, the different stages can occur in which direction?**
   1. clockwise
   2. counter-clockwise
   3. both clockwise and counter-clockwise
   4. in any direction, including shortcuts
8. **The engineering design process is iterative. This allows engineers to…**
   1. become proficient at different engineering software applications
   2. find the most optimal solution to a design problem
   3. Incorporate both math and science concepts into a design problem
9. **When finding the solution to an engineering design problem, there is/are usually…**
   1. only one possible correct solution
   2. a very limited number of possible correct solutions
   3. many possible correct solutions