

Name:

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Class:

## Engineering Design Quiz

- 1. In engineering, the design process begins when...**
  - a. information about an existing product is gathered by an engineer
  - b. an engineering design team comes up with ideas for a new product
  - c. 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?**
  - a. Identify the Need
  - b. Research the Problem
  - c. 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*?**
  - a. The shoes must be designed for kids
  - b. The shoes must be made out of recycled materials
  - c. The shoes must cost less than \$20 to manufacture
- 4. During a brainstorming session we want to focus *more* on:**
  - a. quantity of ideas rather than quality
  - b. quality of ideas rather than quantity
- 5. Which step of the engineering design loop distinguishes an engineer from a technician?**
  - a. Construct a Prototype
  - b. Test and Evaluate a Prototype
  - c. 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.**
  - a. model, prototype

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b. prototype, model

**7. When following the engineering design loop, the different stages can occur in which direction?**

a. clockwise

b. counter-clockwise

c. both clockwise and counter-clockwise

d. in any direction, including shortcuts

**8. The engineering design process is iterative. This allows engineers to...**

a. become proficient at different engineering software applications

b. find the most optimal solution to a design problem

c. Incorporate both math and science concepts into a design problem

**9. When finding the solution to an engineering design problem, there is/are usually...**

a. only one possible correct solution

b. a very limited number of possible correct solutions

c. many possible correct solutions