QUIZ / How Much Can a Robot Lift?

NAME DATE CLASS PERIOD

Put a check ✔ in the ☐ next to the correct answer.

1. **What is the rotary force produced on the output shaft of a motor called?**
   - ☐ **Power** ☐ **Torque** ☐ **Gearing**
2. **What is the product of a motor's speed and torque?**
   - ☐ **Power** ☐ **Stall point** ☐ **Work**
3. **What is the condition where a motor encounters so much resistance it cannot turn ?**
   - ☐ **Stall power** ☐ **Stall torque** ☐ **Torque stop**
4. **As a motor's resistance is increased, the required current must:**
   - ☐ **Stay the same** ☐ **Decrease** ☐ **Increase**
5. **As a motor's resistance is increased, the torque must:**
   - ☐ **Stay the same** ☐ **Decrease** ☐ **Increase**
6. **As a motor's resistance is increased, the RPM must:**
   - ☐ **Stay the same** ☐ **Decrease** ☐ **Increase**
7. **If your test shows that you can lift 14 ounces with a 6 inch lever arm, how many inch/ounces of torque do you have?**
   - ☐ **20 inch/ounces** ☐ **84 inch/ounces** ☐ **8 inch/ounces**
8. **How long is a 6.5 inch lever arm in centimeters? (1 inch = 2.54 cm)**
   - ☐ **16.51** ☐ **3.91** ☐ **3.19**
9. **If you needed 12.5 ounces to create stall, how much force did you need in Newtons? (1 ounce = 2.84 Newtons)**
   - ☐ **12.784** ☐ **2.84** ☐ **3.55**
10. **If your find that your motor stalls when you apply 3.4 ounces of resistance with a lever arm that is 7.25 inches long, what is your torque result expressed in centimeters/Newton's? Show your work on the back of this test.**
    - ☐ **24.65 Newton/centimeters**
    - ☐ **18.415 Newton/centimeters**
    - ☐ **17.788 Newton/centimeters**

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