

**QUIZ** / Can I Make my own Sensor 2 / Programming

NAME

DATE

CLASS PERIOD

**Put a check ✓ in the ☐ next to the correct answer, or write the answer below the question. Use another sheet of paper if you need more space.**

1. What is the function of the red wire that you have attached to the potentiometer?
2. What is the function of the black wire that you have attached to the potentiometer?
3. What is the function of the white wire that you have attached to the potentiometer?
4. How many volts does the potentiometer need to function?
5. What is the range of an analog sensor in Easy C?
6. Does the range of the sensor match this range? Why do you think it may or may not?
7. After you have plotted the angle, potentiometer and servo motor values, would you say that the graph shows a linear or nonlinear relationship?  
☐ linear                      ☐ nonlinear
8. Are the angle values directly or inversely related to the potentiometer values?  
☐ directly                      ☐ inversely
9. Are the angle values directly or inversely related to the servo values?  
☐ directly  
☐ inversely
10. Extrapolate from the graph values to predict what the potentiometer value should be when the angle is 105 degrees.
11. Is there a constant you could multiply the servo motor value by to make it approximately equal to the potentiometer value?  
☐ yes  
☐ no
12. If so, what is it?

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13. Is there any difference between what the motor module does when you turn your sensor to its clockwise limit, and what it does when you turn your sensor to its counterclockwise limit? If so, what is it?
14. Does your motor run faster when the sensor value is 5, or at 100?
15. Does your motor run faster when the sensor value is 250, or at 200?
16. Given the same inputs, how does the motor module act differently from the servo module?
17. What is the range of an analog sensor in Easy C?
18. Does the range of the sensor match this range? Why do you think it may or may not?
19. If you have completed both Part 1 and Part 2 of “Can I Make my own Sensor”, answer the following question: How do you think Easy C gets values from sensor inputs? Do you think it measures voltage, current, resistance, or something else? Explain.