Name:
Date:

Circuit #12 Spinning Motor

1.

How is this circuit, or a circuit like it, used in everyday life? Provide at least three examples.

_____

_____

_____

_____

_____

Got your motor running?
Upload Circ03Expansion Code to your RedBoard. Fill in the answers below.

Give Voltage values for each PWM value listed at each multimeter location. You will need to change the code to measure the PWM values listed.

2.

Position 1:

PWM @ 100%, V = _____v

3.

Position 1:

PWM @ 75%, V = _____v

4.

Position 2:

PWM @ 100%, V = _____v

5.

Position 2:

PWM @ 75%, V = _____v

6.

Position 3:

PWM @ 100%, V = _____v

7.

Position 3:

PWM @ 75%, V = _____v

8.

Position 4:

PWM @ 100%, V = _____v

9.

Position 4:

PWM @ 75%, V = _____v

10.

The amount the voltage decreases by as it passes through components is called voltage drop. What is the correlation between the various voltage drops you just measured?

_____

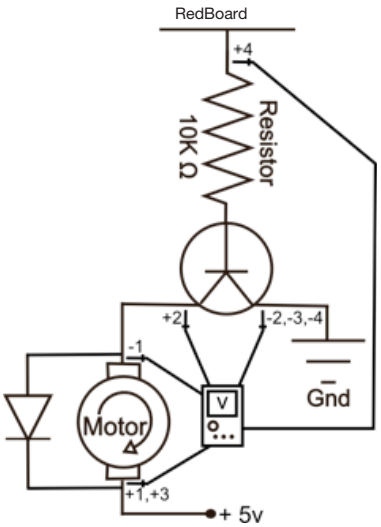
_____

_____

_____

_____

Circuit:



11.

In your own words explain what this transistor does and the ways in which the motor's action would change if it were hooked up directly to a 5V power source and a ground?

12.

Without using any code how could you make the motor run the other direction?

A Little History:

13.

The word transistor is a combination of what two words?

14.

What was the first type of transistor to be mass produced, and by who?

15.

Transistors are used in almost ever piece of modern electronics and considered one of the most important inventions of the 20th century. What are some of your favorite items that contain a transistor? Name at least five.

Circuit: